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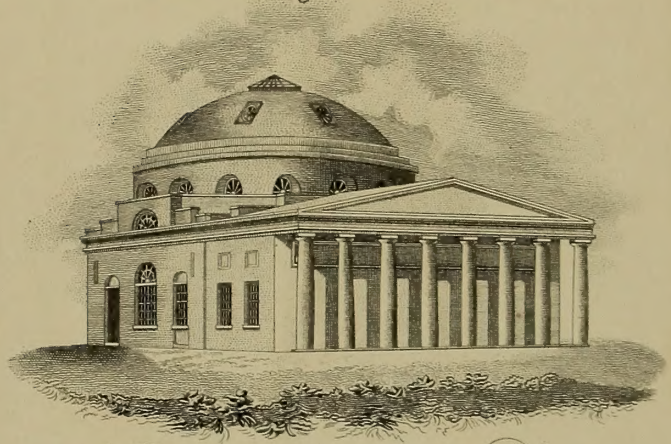

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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1876 (c)

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Thesis.

on.

"The history and use of Anaesthetics in Practice of Medicine and Surgery".

Presented to the Faculty of the University of Maryland, for the degree of Doctor of Medicine by Millard L. Mitchell of Maryland.

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WB
1873

The introduction of anaesthetics into Surgery and Practice of Medicine, has wrought a most wonderful change in the Diagnosis, Prognosis and Treatment of disease. Especially is this the case in Surgery; in which before the introduction of Anaesthetics, Surgeons were often misled as to the nature of the injury sustained by there patients, owing to the intense suffering caused by proper manipulation. There

Treatment became even worse
where a leg or arm had to
be amputated, the struggles
of the patient greatly inter-
fered with the Surgeon's hand
and he was often compelled
to hurry through with an
operation and make, so to
speak, as good a stump as
he possibly could under the
circumstances. The Prognosis
as might be expected under
such treatment, was far
from being the most favour-
able, indeed the struggles

of the patient, his piercing shrieks, the pain undergone all combined to make a most pitable spectacle not only to the by-standers, but to the Surgeon himself., and delicate operations about the eye, and large operations such as Lithotomy, Ovariotomy, &c. were unattempted, or if attempted with but poor result.

We can congratulate ourselves that such is not the case in modern Surgery. Indeed not only can large

operations be performed with perfect ease, and without pain, but delicate operations about the eye, and even the more complex ones, are an every day occurrence with Surgeons, and we are happy to say, in the majority of cases with the best results; patients will now submit to operations, which formerly they would rather have died than endured; the change is remarkable, and it becomes us to look more

minutely into the History and effects, of some of the most important, of the Anaesthetics.

1st. Ether -

Def. Ether, Aether, Aether Sulphuricus, A volatile inflammable liquid prepared from Alcohol, and containing not less than 92 % of pure Ether - Sp. Gr. 0.735, boiling point below 105° F.

The merit of first employing the inhalation of Ether, in such a way as to produce a controllable and decided

state of unsensibility, is I think undoubtedly due to Dr. W. G. Morton of Boston U.S. The honor of this great discovery was contested by his preceptor, Dr. C. T. Jackson, a practising Dentist in the same City, but it seems from the discussion that arose at the time, that Dr. Jackson was the one who first intimated the Anaesthetic properties of Ether. Nevertheless, wether this was so or not, undoubtedly the

practical application of it.
is due to Morton, this took
place on the 30th of Septem
ber. 1846., a tooth was ex-
tracted from a man by
the name of Eben H. Frost.
without pain and the
man entirely unconscious
during the operation, Morton
did not at first make
known publicly his discov-
ery, but continued to make
experiments at his own
house, having made his
subject known to Dr. Warren

the then eminent Surgeon of Boston, he was allowed to introduce his anaesthetic agent into genuine surgery., this took place at the Massachusetts General Hospital, on the 16th Oct. 1846 Dr. Morton administered the Ether to a patient prior to an operation, and Dr. Warren removed a tumor from the neck, and the day following Dr. Hayward removed one from the arm., both were successful, and were

removed without pain.
From that time the use of the novel
remedy (agent) spread throughout the
world.

When Ether is inhaled for
the purpose of producing
Anaesthesia, the first stage
is that of excitement, the pa-
tient experiences a flow of
ideas, generally pleasing, in
their character; a sense of
warmness throughout the
whole system, and as he
continues to inhale he grad-
ually subsides into the

second stage, or that of complete insensibility; at this stage the surgeon uses his knife; various parts of the body are last to come under its effect, such is the case with the matrix of the nail, the openings of the external genitals, and the anus. Ether undoubtedly produces its effects by being absorbed and carried with the circulation.

Too much cannot be said, in the praise of this won

derful agent; it is true that for some time after its discovery it almost fell in to disuse by another more powerful agent; Chloroform. Still when its virtues were more fully investigated, when its effects upon the system as compared to that of Chloroform were better ascertained, it could not help, as we are glad to say, is the case at the present time, once more assert its supremacy. Ether comparatively speak-

ing is a safe agent in the hands of the skillful practitioner, there are a few rules however, which it is necessary to follow in its administration. The best method of administering Ether, is from a small thin piece of sponge, wrung out of water, and surrounded by a pasteboard or light metallic cone, which should be perforated at the top; it should be large enough to cover both mouth and nostrils, it should

also be held firmly; the Ether
should be as pure as possible,
and a half fluid ounce should
be poured on the sponge at
a time. The first few inha-
lations should be made while
the sponge is some distance
from the nostrils; it may
gradually be brought in con-
tact with the nostrils, as an-
aesthesia progresses, and held
firmly there, and unless
the patient is seized with
a fit of coughing, or from
having eaten hearty meal

before being anaesthetized begin to vomit, I say there is no necessity to remove the sponge unless it is to add more Ether, there is no danger, as in the case of chloroform, from the vapour being too concentrated, and if the patient breathes freely he cannot be too rapidly etherized, I think if the above rules were more fully followed out; it would do away with one of the objections to the use of Ether viz. the large quantity re-

quired to produce anaesthesia,
Ether when given internally.
is a rapidly diffusible stimu-
ulant and antispasmodic.
we will look more fully in-
to the action of Ether later.
we next pass on to a most
powerful anaesthetic, and
one which for a long time
held full sway among agents
of this class, we refer to

Chloroform.

The discovery of Ether was
destined soon to be eclipsed.
Chloroform is the terchloride

of Formyle which is composed of two atoms of carbon and one of hydrogen, hence the symbol of Chloroform $C_2 H, Cl_3$. this wonderful agent was discovered by Soubeiran in 1831, by Liebig in the year following, and by Mr Samuel Guthrie, of Sacketts Harbor, New York almost simultaneously in the same year, its composition however was first accurately ascertained in the year 1835, by Dumas and Peligot, but strange to say neither of these chemists were

acquainted with its great power of producing anaesthesia this brillant discovery remained for Sir James Y. Simpson of Edinboro in 1847. It is obtained by distilling rectified Spts. and chloride of lime together with water, in the proportion of four pounds of powdered chloride of Lime, twelve pounds of water, and twelve fluid ounces of rectified Spirits. It is a dense colourless liquid; when quite pure it has the specific gravity of

1.480. it is exceedingly volatile and boils at about 140° F. the smell is agreeable rather fruity in character, it is almost incombustible, thus possessing one adbantage over Ether, of which, at least one accident has occurred from its administration. We must come to its effect on the human system, when the vapour is inhaled, it is absorbed by the blood and carried to all parts of the body the nervous centres included,

upon which it soon produces its characteristic effects, it is convenient to divide these effects into degrees,- the first degree is the stage of exhileration the pulse becomes quick, mental ideas increase, the whole surface of the body becomes red and turgid, but nevertheless there is perfect consciousness of what is going on, pain is still felt, in the second degree consciousness is no longer perfect, the patient does not move or speak

although he will do both if aroused and spoken to. All the peculiarities of intoxication may be produced. The patient may become noisy, he may weep or cry, but this stage does not long continue, for if the inhalation is continued, it soon passes off into the third degree or that of deep, profound sleep, the pupil is contracted, the ball turned up under the upper lid, all motion is at an end

reflex actions may however be excited as in sleep. surgical operations cannot be commenced in this stage. The fourth degree is that of insensibility, in its widest sense, reflex actions are no longer excited, the muscles of the body are perfectly relaxed, the eyeballs may be touched without winking, at the beginning of this degree surgical operations should be commenced, the fifth degree gradually extends in-

to the state known as co-
ma; in this state, the pu-
pil dilates, and the breath-
ing becomes slower, and
if the inhalation be pushed
death may result from co-
ma, when we consider the
powerful effects of this rem-
edy, we are not surprised
that life should be extin-
guish by it, death may re-
sult from its administration
in several ways, it may
cause death by apnoea, by
giving the blood such a

quality, that the capillaries of the lungs will refuse to act upon it, or by stopping the reflex act of inspiration by acting directly upon the medulla oblongata. but secondly, there is no doubt but that chloroform usually kills man, by acting directly upon the cardiac ganglia of the heart, by paralysing them, and if restoratives are not used death may result from syncope; the respirations

of this stage are, that the face becomes deadly pale, no pulse is felt at the wrist, gasping commences, the heart cannot be felt to beat, active measures should be resorted to for the restoration of the patient, artificial breathing should be produced, stimulants should be resorted to, but principally the great surgeon Velatou's method as reported by our countryman Dr. J. Marion Sims, which consists in elevating the la-

tient by his heels, with his head down, thus causing a rapid flow of blood to the brain. Now comes the very serious question wether Chloroform has increased the mortality of operations, this is a question which as yet cannot be fully stated, but now let us compare Ether with Chloroform, and if it possess any advantages in the way of safety, we will be better able to decide, That sulphuric Ether does

poses advantages over Chloroform there can be no doubt statistics show that the administration of Ether has been followed by more favourable results, than from the administration of Chloroform; Indeed at present Ether especially in this country is used almost entirely in surgical practice, The advantages of Sulphuric Ether are its entire safety the ease with which it is administered, and the slight inconvenience which follows.

its administration, and there
is doubt whether death has
ever in a single instance
been the cause of death when
it has been properly admin-
istered; there is one case of death
reported from its use, and the post-
mortem appearance showed
that death had taken place
from asphyxia, and there is
reason to believes, as I have
already intimated, that
death would not have ta-
ken place, if the lungs
had been abundantly sup-

fluid with atmospheric air. It is only wonderful that an agent of such power, used as it often has been, in the most reckless manner, by unskillful hands, and ignorant persons, should not have caused death, and ~~for~~ more disastrous results, than any that have hitherto been made known, It teaches us, that it should be used with caution, and confided only to skillful hands; the dangers from its use are far less

than that from chloroform:
there are no ill consequences
from its use, If it be breathed
only for a short time, its ef-
fects usually pass off in a
few minutes, Nausea and
vomiting are not frequent
unless it be inhaled soon
after food has been taken
there are no convulsions fol-
lowing its exhibition, nor
delirium of any kind, ex
cept a slight, and trans-
itory kind such as follows
from intoxicating liquors

it affects the functions of the nervous system, and for but a short time, and headache is rare as a consequence of its inhalation, the only prominent objection to the use of Sulphuric Ether as an anaesthetic agent are its pungent odour, which is offensive to some people, and its unconsiderable degree of irritation which its inhalation produces in the air passages. This irritation I think, may be in a great

measure prevented, by proper attention to the mode of its exhibition, and the quality of the article used, admiting these objections to be as great as they have been said to be, by those who have urged them with the most earnestness, they do not in my opinion, counterbalance the advantages.

Gentlemen of the Faculty

I have presented my views up on this important subject, in the preceding article, hoping

they will meet with your favourable consideration. I remain with deep humility

Yours truly,

Millard L. Mitchell.

Thesis

Typhoid Fever

Samuel O. Hunt
Class 1876

Enteric Fever - Syn. Typhoid Fever

Definition - A continued fever characterized by languor and feebleness from the first, attended by headache, abdominal pains & by spontaneous diarrhoea. As the disease advances the diarrhoea increases, discharges become, for the most part liquid and abundant, usually of a bright yellow color very foetid and without mucus. An eruption is generally found appearing on the abdomen about the Eleventh day consisting of rose colored papilla occuring in successive patches, each crop lasting about three days

Symptoms - The fever may be herald by rigors, chilliness or profuse Diarrhoea or for many days by languor & general Malaise, one of the first & most pathognomonic symptoms are abdominal pains and diarrhoea which continue to advance in intensity. Epistaxis usually happens at irregular intervals during the first week. The face with flushed cheeks and dilated pupils, pale conjunctivae all is but the index of the coming struggle. The mind continues clear, but delerium when it does set in is active. The abdomen swells & is resonant on percussion with gurgling in the right Iliac fossa on firm pressure, tenderness

is often times found in this region. From the eighth to the fourteenth day the characteristic eruption usually appears on the abdomen. The flushing of the face is also a rule more marked at night than during the day especially at morning and is often circumscribed, thus having a contrast to the surrounding pale skin, The flush does not become muddy as in Typhus, but is of a bright pink color, as the disease advances toward the third week the abdomen becomes more distended, the diarrhoeal discharges more frequent & profuse amounting to ten or twenty in the twenty four hours, and when the

The eruption consists of rose colored spots, seldom beginning before the seventh or after the fourteenth day sometimes a delicate scarlet tint of the whole skin closely resembles the commencing stage of Measles. The eruption consists of slightly elevated pimples. The finger lightly passed over the surface detects them, they disappear upon firm pressure but return as soon as the force is removed. These characters they retain during their entire course which is from two to six days, when they disappear and leave no trace behind, but fresh ones make their show every day or two after the first day until about the fourth week. Few generally appear at once

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Dr. Aitken says- "The successive daily eruption of a few small, very slightly elevated rose colored spots disappearing on pressure, each spot continuing visible for three or four days, only is peculiar to and absolutely diagnostic of Typhoid Fever."

Temperature — The course of the disease is typical and the type uniform, or that if the case varies we can in general trace the irregularity to some source. The increase of the temperature in the evening and the remission in the morning follow one another for about three days. The morning and evening temperature being about two degrees higher than the previous morning & evening, while the morning

temperature is about one & a half degree below the evening preceding it. The temperature of the first evening being one hundred whence it continues to rise until about the fourth day when the fever reaches its maximum which is about one hundred and four degrees. Then the disease remains stationary for several days and may be recognized by a stubborn tendency of the evening temperature to rise. The mild & severe cases pursue the same course during the first week. & that the temperature is of little use in determining the prognosis during the first week, but during the second week the mild and grave cases diverge in temperature

It is obviously that we can say with
almost certainty whether it be a mild
or severe case with which we are deal-
ing; and should the course through
the season prove favorable, we
are at liberty to say with much
assurance that the case will not
be fatal. We should always
expect slow recovery if recovery
at all. If in the course week we
find the morning temperature
above one hundred and three &
the evening more than one hundred
and five, or when a fall in
the temperature does not occur a-
bout the middle of the week or a
constant temperature of one hundred
and four or higher, are highly dis-
couraging omens. Otherwise the

elevation of morning above the evening
temperature. In the third week we
have those oscillations of
from four to six or even more degrees
between the morning and evening
temperatures. The fever is apt to abate
or cease during this week the fever re-
verting to its normal standard when
convalescence begins. Sometimes this does
not occur until the fourth week.
It is during the third week we look for
complications & they are apt to result
fatally. Convalescence can not be
declared by any other way than
by the Thermometer. Dr. Aitken says-
"In the majority of cases whether
they be mild or severe, a peculiar peri-
odicity of weeks & half weeks can not
be mistaken

Duration of attack -

The obscure stage or the period at which the patient is suffering without marked symptoms of any kind occupies about two or two & half weeks in slight cases, in more severe ones it may continue for a week or more longer. The period in which Pryer's patches are involved occupies about four days. The elimination or removal of the growth may take place in a week or it may be two, or that in mild cases the whole time taken up with the disease is about four weeks, while in more severe forms it often happens that the height of disease lasts three or four weeks hence in these cases the time occupied

many weeks ten or fourteen weeks.
The durations recorded by many
men are so unlike, that we are
conservative in saying the average
time is about twenty four days.
As the secondary local lesions are
great in protracting the disease
it is of some importance & requires
diligent watching to determine
just when the original fever ceases
and it is just at this point
when all are enjoying the appar-
ent improvement of the patient that
perforation of an intestine may
occur & the patient rapidly sinks
in a few hours. Relapses is more
frequent during the Autumn Mos.
than Spring or Summer, and usually
makes its appearance about two

weeks after convalescence of the original attack began. The early symptoms are similar to those which attended the first attack but the disease is much more brief and dangerous.
In patients who recover from an attack of this Fever there is often much fatuity remaining, in some for a short while, in others much longer & rarely during the whole of their after life, especially where delirium has been marked and persistent. I remember a case of a young man aged 21 who had & survived an attack of Typhoid fever lasting if I mistake not fourteen week, in childishness of mind sadly remained

for months after apparent restoration health, and although that has been ten years, he has never gained his clear strength. The approach of death is indicated by a permanent or persistent rise of temperature in the morning or surely by a sudden to below normal. Urine — after the disease has lasted several days the urine is passed in less quantity but of greater specific gravity thus containing an excess of solids. Dr. Parkes noticed that about the urea increased to one fifth of its normal amount. The chloride of Sodium is diminished owing probably to the very small quantity of this salt being taken

with the stomach on account of the fever diet, or it is argued by some to be caused by the elimination of large quantities of it with the stools and perspiration, it is more than likely due to both causes. Uric acid is always increased and not infrequently doubles itself in amount, but during convalescence it may even fall below normal. Albumin occurs in about one third the cases Albuminuria when it does exist is usually transient. Yet Dr. Parks tells of a case in which there was permanent Albuminuria & upon examination he found Kidney lesion which had not existed previous to the attack of fever

Anatomical Lesions –

The abdominal complications are due chiefly to lesions of the solitary and aggregate glands of Peyer and to enlargement of the mesenteric lymphatics glands, we should bear in mind however that the age of the patient has something to do with – the complication of these glands since we know the solitary vesicles and the aggregate glands of Peyer are most fully developed from youth to early manhood, after that period they begin to disappear so that at the age of forty the glands substance is gone & Peyer's patches are no longer found

The condition of these glands was found to be congested as well as the mucous membrane around them this condition of things sometimes extends to the entire abdominal viscera sensations of pain and heat together with the obliteration of the lineaments of the belly are found in this morbid state, the congested gland vesicles become obviously enlarged, growth cells occur until the cell is completely filled with substance the whole mucous membrane becomes more or less involved at first, still it is more marked towards the lower end of the small intestine, a subsidence of the general congestion takes place after the gland growth has been fully

established, although the growth continues until the palates of Prayer become so thick as to be elevated two or three times above the surface of the mucous membrane. The next change in order for is softening of the mucoid gland cells, the softened contents are got rid of in one of the following ways,
1st. Elimination without ulceration.
2nd. Elimination by ulceration.
3rd. Elimination of the growth by sloughing of large masses of Prayers palates. It is generally believed that in the majority of mild cases Elemination takes place without ulceration, sometimes the peristaltic action promotes this mode of recovery

When Elimination occurs in ulceration we are apt to have the gut perforated, and this is the condition of things in the majority of fatal cases, and just the condition most likely to deceive friends & Physicians, still if the temperature be watched carefully the Physician may suspect internal trouble since the temperature is never absolutely normal in such insidious convalescences. The number of ulcerations varies very much & there may or may not be perforation of the gut it not being necessary to produce peritonitis, Elimination of the Typhoid growth by Sphacelus of large masses constitutes the third Mode.

In this form the entire gland substance implicated is involved in the destruction, this is due to sudden and excessive growth of cells and vessels so enormous as to be unable to maintain life and the whole substance softens and dies, there is a tendency to bleeding when the process begins. The occurrence of hemorrhage (when present) is a most alarming symptom and usually does not occur until the third or fourth week. Complications we may have no complication of the disease many others. The most common of which are Bronchitis, and Pneumonia, either tends to aggravate the disease. growth of tubercle may be developed during the

Malady, we may also have local inflammation, Erysipelas, Phlebitis etc. which may be result of cold or of absorption of putrid matter. There are many ways in which death may occur from Typhoid or Enteric Fever. 1st. & most common is that of blood poisoning in which case the fever is very intense and death may occur early with Cerebral congestion, or later when the disease seems to have nearly runs its course, owing probably to the absorption of putrid matter generated by intestinal ulceration in these cases the sweat becomes cold and clammy, with rapid pulse & some say the body in life begins to exhale a peculiar putrid odour

Secondly. Death may occur by implicating some of the secretory organs at an early period as the Kidneys in which we have albuminuria or bloody urine
Thirdly – Congestion of important organs as for instance the Brain.
Fourthly – Hemorrhage from the bowels during separation of sloughing glands.
Fifthly – From exhaustion caused by profuse diarrhoea when the mucous membrane is extensively involved.
Sixthly – By Peritonitis with or without perforation of the intestine. The average mortality appears to be about one in every five cases It is less in Autumn than Spring, least in Winter.

Origin and Propagation.

Much dispute and dissatisfaction has prevailed for a long while as to whether typhoid is a contagious or a noncontagious disease, and both sides has many able and ardent followers One thing is clearly shown and is a well established fact. that is typhoid fever has a tendency to spread through a school or household or village etc. when once introduced. We have numbers of instances where a case of fever have been brought into Hospitals and numbers of the inmates subsequently seized with the disease at a time which proves point to the contagiousness of the disease

Dr. Budd strongly encouraged the belief of its communicability and cites many cases to prove his argument, and tells us of three persons who left a village after beaming diseased, going in opposite localities and each one communicated the disease to one or more of his attendants. He argued 1st. that that disease is contagious because when a patient once has typhoid he is ever after protected from a subsequent attack. The specific nature of the disease is established for not only does the fever propagate itself but it propagates no other kind of fever. one case causes another similar case just as small pox. Measles or Scarlet Fever

Secondly- There seems to be a period of incubation, during which a time elapses before the disease is developed. This period seems to be from ten to fourteen days. "The living human body therefore is the soil in which this specific poison breeds & multiplies and that most specific of processes which constitute the fever itself is the proof by which the multiplication is effected". Thirdly- Like all diseases of its kind the origin is unknown and the first outbreak may either be of imported origin or it may be due to a rekindling of some dormant malaria left during a previous attack.

Dr. Aitken contends that the specific poison by which the fever is communicated is doubtless contained in the diarrhoeal discharges which issue from the diseased and exanthematous bowel, the discharges may dry up and preserve the germ as effectually as the small pox scabs retains the virus of that disease. He says Typhoid may be propagated in three ways. Firstly: by percolation through the soil into wells which supply water to the inhabitants. Secondly - by issuing through defects in sewers into the air of an inhabited area. Thirdly - by exhalation through the operations of water closets and Privies which are receptacles of the discharge

from the sick and daily resort of the healthy. That Typhoid is due to some local cause cannot be denied and while Dr. Budd and many others claim the fact of its seizing hold of schools families villages etc. as proof of its communicability, may it not be owing to some local cause to which every member of a family, school or village has been subjected? Indeed we cannot accept their Theory since we have seen so many sporadic or isolated cases in both private and hospital practice, we are therefore persuaded to accept Dr. Aitkens views with a great deal of credence and believe him to be strictly true

It is recommended as a prevention against Typhoid fever that we, first, be careful to remove all the discharges from a patient in a vessel containing a saturated solution of Zinc as soon as it issues from the body. Secondly - all tainted linen or body linen should immediately on its removal be placed in water containing Zinc. Thirdly - The water closet should be daily flooded with the same & Chlorinated Lime should be sprinkled there as Chlorine in a gaseous state will be the product. One foot too much care can not be exercised to preserve the best Hygienic means and thereby stamp out the disease

Treatment in Typhoid Fever consists in reducing temperature subduing vascular excitement if there be present in short moderating and restraining but not checking Diarrhoea, to stimulate the nervous system when necessary to obtain a free action of the kidneys and to influence the elimination of the morbid growth from the the intestinal glands, or in other words not in this case as in all others according to the promptings of a deliberate judgment - treating symptoms as they arise. The first of these indications is met with a drink of Potash Chlo. every few hours in considerable quantities of water

If the temperature reaches 105 or 108 with slight remission in morning Digitalis gr xl to xx in water boiling ℥x in the twenty four hours. Dr. Wunderlich says it reduces the rate of pulsation & reduces animal heat, acting more rapidly on animal temperature than on the heart and after administering it you may repeat its effect on the second day or at least third when the temperature is reduced two or three degrees. If it fails too rapidly and continuously the drug must be withheld. Cold and liquid diet may be of greatest service in intense heat the oppression headache may be relieved by cold application to the head in ice bags.

To control diarrhoea Lime water and milk in equal parts is found to be useful as a drink it is both pleasant and nourishing. When this fails we rely upon opium. The diarrhoea should be kept under control but not checked. Some fermented mucilaginous drinks such as rice water etc. or sago in small and repeated doses. The latter remedy retards the peristaltic action of the intestines causes a decrease in the mucous secretions. Care being taken to graduate the dose so as to avoid vomiting. a feeling of nausea is very apt to follow the first dose, but this feeling wears off after a few doses and the effect of the drug is then obtained

The Mineral acids are often used in this stage, as the dryness of the surface & tongue indicate an want of alkalinity of the blood. Some combine it with quinea. or ammonia & Laudanum, Plumbi. Acetat. or alum whey often checks the discharges & is especially useful if Meteorism be present.

When meteorism or tympanitis occurs from accumulation of gas in the Colon it may sometimes be relieved by passing a stomach pump tube up the anus as far up the Colon as it can be made to go easily. Stimulation is necessary throughout the disease as we find it disagrees with the patient.

Nourishment is "the one thing needful." in all cases of Typhoid. Treatment is the best and most permanent stimulent to the nervous system. Abdominal pains and meteorism may be relieved by the use of mustard poultices, turpentine stupes and hot fomentations etc. when the tongue is dry and cracked we have been in the habit of employing Turpentine internally. We believe also that it has a tendency to prevent the ulceration of the intestinal glands. Hemorrhage from the bowels is a grave symptom and calls for urgent treatment. Sugar of Lead or cold drinks ice may be applied over the

Stomach

If Epistaxis be obstinate, use cold water or vinegar injections if this does not stop the bleeding plug up the Posterior Nares. When in the advanced stage the pulse slow with general debility skin cool, the tongue & teeth encrusted dark, with sordes. Tonics and Stimulents are absolutely essential - when wine is very useful. Opium is a good Stimulent, but of all the treatment employed none can compare in importance with proper diet & nourishment.

Submitted to the Faculty of Med. University by Samuel Offutt of Damascus Montgomery Co. Md.

Jan. 24. 1876.

A Thesis on
Puerperal Eclampsia
by
Jno. H. McMullan
1876.

"Puerperal Eclampsia"

Gentlemen

You will please pardon me for dwelling at some length upon a case that occurred in the practice of my perceptor, whom it was my fortune to aid, and from which case I noted the following - On the morning of March the 6th 1875 the Dr was called to see a patient residing about four miles in the country. On arriving at the bedside we found the patient to be a corpulent, primiparous woman, age seventeen, of plethoric habit, with a full charited pulse. Her husband stated that her bowels had been constipated for several days. There had been observed no suppression of urine. The bladder was nearly empty when examined. She had been convulsed several times before our arrival, and was then semi-conscious - Her husband said that

[illegible]

[illegible]

[illegible]

[illegible] attending to domestic duties, She had her [illegible] about 3 o'clock in the morning; which lasted but a short while, but was soon [illegible] by others with increased severity, which had continued one after another until our arrival, which was about 6 o'clock A.M. when we found her as before stated in a semi-conscious condition. The Dr. at once gave her hypodermically Magendie's solution of Morphia [illegible] [illegible] tranquil and slept quietly. Upon a vaginal examination it was found that the conception was about two weeks from [illegible], and as the Morphia prevented for

several hours the return of [illegible]
[illegible]
conception to a [illegible]
[illegible]
and being compelled to attend to other pro-
fessional duties, the Dr. left after giving in-
structions to be sent for if symptoms of
convulsions again appeared. On the evening
of the same day we were again sent for in
great haste, and on our arrival we found
the poor patient more violently attacked than
before; having all the [illegible]
[illegible] these convulsions, she was at once
[illegible] to the extent of
[illegible] The blood was dark
and gummous, quickly [illegible]
[illegible]

[illegible] ing convulsion
[illegible]
[illegible]
[illegible] and it was found that [illegible]
[illegible] aturely set in; it being dilated to the
extent of about three quarters of an inch.
Morphia was again given with good effect
Chloroform was administered freely by in-
halation during the interval between
the convulsions, [illegible] decided to [illegible]
later as rapidly as it could be done by
persuasive means, the Ext. of Belladonna was
applied to the [illegible] and also dilatation by
digital manipulations. Morphia was again
given, and after two hours the membranes
were ruptured, Shortly after the rupture of
the same, she was delivered with forceps

[illegible]ty three hours after her first [illegible].
[illegible]
[illegible]
when the hand was applied over the abdomen
There was no more convulsions after the de-
livery of the child, but the patient was
left [illegible]
[illegible] a [illegible]
the mouth and nose, All our efforts to
[illegible]
[illegible], and the poor sufferer breathed her last
eight [illegible]
[illegible] one hours after the first attack. —

Among the many diseases of the parturi-
ent woman the one [illegible]
[illegible]
[illegible]

[illegible]

[illegible]. Puerperal Eclampsia is a convulsive disease appearing during the period of pregnancy [illegible]. It is a disease whose [illegible] the diagnostician aright in discriminating between this and other convulsions occurring during the time at which eclampsia is liable to occur, the leading different authors upon this subject, [illegible] a great discrepancy as to what rightly constitute puerperal eclampsia. This discrepancy no doubt arises from a want of the proper conception of the leading characteristics of this affection [illegible] confounding it with other convulsions which are in no wise connected with the

[illegible]

[illegible]

of eclampsia, Fordyce Barker says [illegible]

[illegible]

[illegible] eclampsia [illegible]

[illegible] characterizes these attacks at all times,

the difference being only as regards fre-

quency, duration, and intensity of the

paroxysm, this being [illegible]

[illegible] as nearly as [illegible] the phenom-

ena presented in the case I have just

cited, together with the earlier [illegible]

given by authors which I have not seen

as I did not see the patient until she had

passed through the first stage of the attack.

This affection is characterized by a series

of fits in which nearly all the muscles of

[illegible]ation, and often those of organic life are
[illegible] into a state of action [illegible]
[illegible] which follows [illegible] lets complete
suppression of the [illegible]
[illegible]
[illegible] frequently the patient has premonitions
of the pending attack which if heeded
may be warded off by judicious treat-
ment, and she who stand but a span
from eternity may be conducted to a
happy finale. But sometimes [illegible]
occur in later pregnancy without any
premonitory symptoms, having not been
[illegible] either by patient or friends.

Fordyce Barker says that in the most
[illegible], and in the most dangerous cases
of puerperal convulsions that he has

[illegible] the [illegible]
[illegible] no symptoms to attract the attention
of the observer, and therefore have had no
prophylactic [illegible].
The patient may be engaged in her ordinary
avocations when attacked, she stops sud-
denly, turns pale with a fixed expression
of the countenance, and a fixed posture.
After a few moments the eyelids begin to
twinkle, and the eyeballs roll in their
sockets under the upper lid, showing
only the sclerotic. The mouth is drawn up
at its angles producing a horrid appear-
ance, the angle of the mouth being drawn
to one side the face turns to the shoulder
of the same side. Then the muscles of
the face begin to contract; next those

[illegible] The [illegible],
and the [illegible] [illegible] and [illegible]
the carotids beat violently. The thumbs are
drawn into the palms, and the fist is
clenched together, sometimes one arm
is extended as to ward off a blow.
Muscles of the throat and [illegible] are
contracted [illegible] [illegible] [illegible]
with the oxidation and decarbonization
of the blood, producing a purple [illegible]
in the face, then are the [illegible] [illegible]
characteristics of the tonic stage, which
does not last [illegible] [illegible] [illegible]
[illegible] seconds, then comes the clonic stage
which is characterized as follows. The
muscles of face, body and extremities are
rapidly convulsed. A white [illegible] [illegible]

[illegible] the mouth and nose. The inspiration [illegible]

[illegible]

[illegible]

seeing and feeling. The circulation is [illegible]

[illegible]

[illegible] is cleared away. [illegible]

[illegible]

entirely disappear. This the clonic stage

is of longer duration than the [illegible]

stage, and may last for several minutes.

The intellect remains dull and stupid

[illegible]

[illegible]

[illegible]

[illegible]

severity, duration, and intensity of

the convulsion. Sometimes it is nearly

a profound deep which [illegible]

the moment, and the patient opens her
eyes looks about with astonishment, and
wonder. She knows nothing that has
happened during the coma. The hearing
and sight are sometimes affected per-
manently but other times the restoration
complete. Happily Eclampsia is not a disease
of frequent occurrence. According to the statistics
given by [illegible] of the [illegible] [illegible]
[illegible] and [illegible] of [illegible] [illegible]
from different authors, only [illegible] [illegible]
attacked with eclampsia which [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] absolute [illegible] [illegible] [illegible] [illegible]
[illegible]; as [illegible] [illegible] [illegible]
[illegible] from year to year. [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible] I saw making in all five. They all oc-
[illegible]ing in very nearly the same nee[illegible]
[illegible] was at least one case of Convulsions
for every twenty five parturitions. Whether this
[illegible] influence [illegible]
occurring as a coincidence, I am unable to state,
but just give it as a fact. By some authors
[illegible]
[illegible] production, [illegible]

It very seldom occurs in early pregnancy, -
but it has been met with as early as the
[illegible] week after conception, but [illegible]
[illegible]
parturition -

[illegible]. Eclampsia "as its name im-
[illegible]" is a flash or an explosion, the ex-

[illegible]gy of which is much better understood at

[illegible]

[illegible]

mysterious in this, as in many other

[illegible]ase which remains to be disclosed

by the pathologist, Albumenuria is almo[illegible]

a constant ~~comitant~~ concomitant of this affection, and

by its being so often present, some Authors

[illegible]

[illegible]

to be but a symptom of a morbid [illegible]

[illegible]ing at the same time upon the

kidney and the brain, Cazeaux says

that since albumenuria is present in an

[illegible] majority of [illegible]

[illegible] rather the disease of which it is a symptom

may be rightfully regarded [illegible]

[illegible] He says that it
[illegible] only known predisposing cause; for
[illegible] attention has been fixed upon this
point, of all pregnant women, those only
who are affected with albuminuria "a few
cases excepted" have been known to be attack-
ed with these convulsions. [illegible]
[illegible] that Cazeaux considers albuminuria as
the only known predisposing cause of
eclampsia, while we will see that there are
other authors who do not attach [illegible]
importance given it by Cazeaux. I copy the
following from Fordyce Barker, who says there are
many cases of puerperal Eclampsia having
all the characteristic phenomena which attend
this fearful malady, and in which there has
been no symptom indication of any [illegible]

of the Kidneys. He goes on to say that the most
[illegible] and repeated examinations have
[illegible],
[illegible] before or after the occurrence of the con-
[illegible]. In many cases in which death has
resulted from the convulsions only the [illegible]
[illegible]ial lesion of the Kidney" as [illegible]
[illegible] has been found in autopsic ex-
[illegible]. He says it is no longer [illegible]
[illegible] has been said that the lesions [illegible]
[illegible] been found because they have not been
[illegible] for; for they have been sought for by
[illegible] observers. [illegible] is willing to
[illegible] that albuminuria is a [illegible]
[illegible], but he is not willing to attach to it that
importance given it by other authors, but [illegible]
[illegible] the same category with hydrocephalus.

[illegible], Uraemia, primitivity, and perhaps

[illegible]

[illegible]

I am not able to say, as I was not at that time aware of its importance, therefore I made no examination for it [illegible]. But from the [illegible] research I have made with reference to the [illegible] of this affection, I have come to the conclusion that albumenuria is a strong predisposing cause, but not the only cause, for these convulsions have occurred when there could be found no lesion of the kidney sufficient for their production. And it seems to be dogmatical to consider any one agency the only predisposing cause to an affection, which only requires for its production, the loss of the equilibrium that characterises the [illegible]

central organism, but would prefer to consider it a production of a combination of influences, such as an impressible nervous system, the resistance offered by the abdominal walls upon the gravid uterus thereby causing compression of the large vessels of the circulation, sending the toxic blood in abnormal quantity to the brain. These together with these causes [illegible] in [illegible] [illegible] I consider as predisposing to the affection under consideration.

The coma that supervenes does not [illegible] [illegible] of the kidney depend exclusively upon Uremic intoxication, but it seems to be produced by intense congestion of the brain, with an occasional effusion into its substance, and sometimes a rupture of its vessels.

[illegible] having pictured at some length in [illegible] of [illegible] dissertation the symptoms of this disease, it is scarcely necessary to revert to it again, but as there are other convulsions so strongly simulating eclampsia, I shall [illegible] the differential diagnosis, by again pointing out the infallible symptoms attending these attacks. There are two stages at which the practitioner might be called upon to make a discrimination [illegible], and the comatose. The first may be mistaken [illegible] a [illegible], or [illegible]. [illegible] the intellect is not totally destroyed: there is also a want of coma: and the convulsions are altogether of a different character. There is no [illegible] at the mouth: no [illegible] of the thumb in the palms, and

[illegible] we have the globus hystericus.

It is most difficult to discriminate [illegible] eclampsia and Epilepsy; but [illegible] are certain infallible differences. [illegible] epilepsy. There is little or no coma in epilepsy which is always present more or less in [illegible] epileptic attack, an examination of [illegible] diagnosis must [illegible]

From tetanus it is distinguished by the continued rigidity of the muscles in this affection. From Catalepsy by the continued fixed

[illegible] of the extremities in what [illegible]
[illegible] placed. The comatose stage is
attended with more difficulty; being often
confounded with Alcoholic coma, Apoplexy,
concussion of the brain, and insolation —
Alcoholism is diagnosed by the previous
history of the case, and the alcoholic odor
of the ejections from the stomach.
In Apoplexy there is no convulsion pre-
ceding the attack or attending it, and
most frequently there is [illegible]
[illegible] of [illegible] [illegible] The loss
of the intellect is always total, and constant
in eclampsia; but not so in apoplexy; but
may be [illegible] [illegible]
In concussion there will be marks of violence
[illegible] with [illegible] of [illegible]

[illegible]

[illegible]

[illegible] of [illegible]peral eclampsia; [illegible]

[illegible] in the diagnosis [illegible]

[illegible]; [illegible]

that occasion will never be forgotten.

Prognosis

The prognosis is always unfavorable; but much will depend upon the severity, duration, and intensity of the attack; also upon the time of its invasion.

Madame Lachapelle was of the opinion that one half of the women affected with eclampsia died. But Cazeaux says we are not willing to agree with the above statement; but think that one death in three or four is nearer the [illegible] The cause or rather the causes

that give rise to the convulsion will vary the [illegible]

[illegible]

[illegible] serous plethora, partial oedema, or general infiltration [illegible].

Cazeaux considers general infiltration a graver symptom than partial oedema, but he says after the disease has once appeared, that he considers "the general infiltration" or oedema as [illegible] ing to the gravity of the prognosis. All the cases that I alluded to in the beginning of my Thesis died. The prognosis is less favorable when it attacks those who are subject to other nervous derangement, as hysteria, epilepsy, &c. Be the prognosis favorable or unfavorable we will not have performed our whole duty, until we have availed ourselves of all the

effort be followed by death of the patient.

Treatment.

The treatment of eclampsia should be divided into the preventive, and the curative. The preventive treatment will first demand our consideration as it is here doubtless our most [illegible] [illegible] [illegible] history of the affection, and as we have [illegible] a few examples which have come [illegible] [illegible] [illegible]

[illegible]tofore that could be considered of much
[illegible]stit in bringing about this restoration in
those affected with Bright's disease of the
kidney; still I think we will not have done
[illegible] whole duty [illegible] the [illegible]
had a fair Trial, The best restoratives are
perhaps an animal diet, with the different
preperations of Iron; The latter acting as a
powerful alteration & blood purifier, [illegible]
plethora caused by venous congestion [illegible]
[illegible] one of the first causes of eclampsia, and
this being true it behoves us to prevent [illegible]
spinal congestion. This condition being
produced by mechanical pressure upon
the venous circulation, Vena Section is our
best means of relieving said condition.
[illegible] the present day we are [illegible] apt to [illegible]

this powerful agent for good when properly ap-
plied; being rather governed by the prejudicies
of the present era of our science; than by its ac-
ter owledged, and often tested therapeutical
influence, especially in cases like the one
now under consideration. Dr. Dewees gives
the following case as showing the [illegible]
of venasection. Mrs. [illegible] pregnant with her
first child was [illegible] with [illegible]
[illegible] towards the close of her first ges-
tation. [illegible]
seized with severe sclamptic convulsions
[illegible]
[illegible]
pregnancy she was bled fully, and was
delivered without accident. In her third,
and fifth venasection was [illegible]

and they were attended with convulsions.
[illegible]
to the remedy, and was safely confined.
When we have under our professional care a
woman of plethoric habit who is approaching
[illegible] stage, [illegible] with a [illegible] pulse
[illegible] frontal headach, and occasional
vertigo; if Venasection be not resorted to
I think we have neglected our most powerful agent for good, If the case cited
in the beginning of my [illegible] had [illegible]
[illegible] prior to her first [illegible] with convulsions,
doubtless her life might have been [illegible],
and the poor sufferer conducted to a happy
[illegible]. But unhappily the [illegible] was not [illegible]
of her condition until the time of the appearance
had passed, Diuretics should be used

[illegible]atively, and with circumspection [illegible]
[illegible] is a suppression of urine, [illegible]
are called for to prevent uremic intoxication,
which may [illegible]
of this clap are the preparations of Juniper
[illegible]
[illegible]
of a Toxic fluid to the brain. Purgatives
stand next to blood letting as a prentive,
[illegible]
and a carrier off of the serous plethora.
Purgatives also unload the bowel of
fecal matter; thereby removing one of the
causes of serous congestion. [illegible]
that an impressible nervous system pre-
disposes to Eclampsia, therefore all exciting
influences must be removed, by surrounding

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] preventive treatment, together with other special means, which must be varied according to the case we are treating; for in this as in most diseases no absolute [illegible] can be laid down governing [illegible] symptoms, and [illegible] case in question must be attended to with care, and the treatment varied according [illegible]. If call to a case of Eclampsia we should [illegible] acquaint ourselves thoroughly with

the condition of the patient before us. Tena-
section if not resorted to before, should now
be considered, and performed if thought
to be advisable; which is very frequently the
case, see that the bladder does not become
overdistended: Examine the rectum, and if
impacted with feces, it should be evacuated
with an enema, Revulsives may be used
and cold applied to the head. If there
[illegible]
be administered. Opium is one of our best
agents in eclampsia and, is best given
hypodermically "Magendie Solution"
Dr. Fordyce Barker considers Morpia the
best remedy at our command.
Other authors consider Chloroform the
best agent and there can be no doubt

of the efficiency [illegible]

[illegible] lity, and by [illegible]

[illegible] the muscles, By it venous compression,

and congestion are removed. [illegible]

[illegible] of respiration caused by the contrac-

tion of the diaphragm, the throat, and

[illegible] are improved [illegible]

tion and decarbonization of the blood

[illegible] perfectly performed.

As to the time at which chloroform should

be administered there is great difference

of opinion; some giving it only during

the interval [illegible] it during

the paroxysm, and still others who gi

[illegible] both during the interval and [illegible]

It seems to me that during the interval is

the better time for its administration.

It should be given until the patient is considerably under its influence. This agent should never be neglected.

A. The grand [illegible] is the centre from which all other causes of Eclampsia arise, the dilatation is the desideratum, and upon this much will depend. The child should not be delivered by evidence, as such a procedure would most probably light up other dangers by the shock it would necessarily produce upon the the already disordered nervous system. The sooner delivery is accomplished the greater are the chances for recovery. As soon as dilatation is sufficient, the forceps should be applied at once, and the child delivered; as every moment of delay lessens the chances for recovery.

[illegible]
the above dissertation, which doubtless should
have been said, and much said that should
have been omitted; but as you are aware of
the limited resources attending medical
students; I hope Gentlemen you will pardon
the many imperfections in the above, and
perhaps some [illegible]
[illegible]
I remain as before.

Yours Respectfully

J. H. McM.

Respectfully submitted
to the Faculty of the New
University, School of Medicine
Six cases which came
under my observation while
a student in the Baltimore
[illegible]

D. W. Smouse

[illegible]

3 & 4th pulsations at the Wrist.
rested badly during
had two evacuations from the
bowls. Evening Temperature 105
Respiration 30. Pulse 90. Drank
about one qt. of milk and a sm
[illegible]
day Sep 4 Temperature 105 Resp. 40
Pulse 84. Says he rested tolerably
well during the night and [illegible]
better [illegible] but [illegible]
[illegible]
and general aspect; he suffe
more. he had 8 evacuations duri
[illegible]

[illegible]

[illegible]

[illegible]

of more severe pains over [illegible]

[illegible] Prof. Miles, ordered

[illegible]

substituted

[illegible]

Gum Acacia

White Sugar āā [illegible]

[illegible]

Water āā [illegible]

[illegible] Dose half [illegible]

[illegible] Sep 5 Temperature 104

[illegible] 40. Rested [illegible]

[illegible]

[illegible]

a dark brown coat and [illegible]

and [illegible]
temperature [illegible]
he shows but very [illegible]
of [illegible]
[illegible]
[illegible]
[illegible]
over the abdomen. Gave him
a cold sponge bath this [illegible]
which reduced his [illegible]
[illegible]
[illegible] feel much b[illegible]
[illegible]
had 4 evacuations during the
night. [illegible]
stimulus in the [illegible]
[illegible]

Pulse 120 [illegible]

[illegible]

[illegible]

bath repeated with the [illegible]

[illegible]

120 Resp 56 Had 6 evacuation

[illegible] begins to [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] temperature 10[illegible]

[illegible]

same as yesterday. Emaciation

[illegible]

[illegible] to consider

eagerness complaining of [illegible]

hungry all the time and not [illegible]

enough to [illegible]

[illegible] is due to the state of his

[illegible]

at the present time Sep. 12 Temp.

Pulse 120. Resp. 55. He moans very

[illegible] at each [illegible]

To the Faculty
of the University of
Maryland

Thesis - by
L. F. Musgrave

Subject - Syphilis

Historical Considerations

There are many theories advanced relative to the history of the disease here considered but none as yet to be substantiated by facts incontrovertible leading us either to consider the first accounts of it as having given rise to science or to accept as most reliable that which ascribes its origin in the 15th Century (near its close) which many authors however regard as being far from conclusive.

From remote antiquity the fear of ulcers appearing

of the same disease - arising & originating from the same virus - until late investigations made relative to Syphilis have succeeded in establishing the non-identity of the two ulcers "Chancre" or the Syphilitic ulcer and the Chancroid or non-infecting ulcer. -

Clinical History.

This disease is divided into three stages, Characterized by symptoms - primary - secondary - and tertiary - which appear with a great degree of order and regularity.

First Stage - In which we

upon the genital organs upon sexual intercourse and followed by abscesses in the groin but no record of symptoms manifesting themselves distant from the point of contagion and no repeated outbreaks after apparently being cured these ulcers therefore must be considered as belonging to the class of ulcers termed Chancroids and not as a lesion of Syphilis. The distinct nature of the two ulcers now are recognized in accordance with facts established by investigations made in many the

last ten years relating to
Syphilis. The Chancroid-Charac
terized by a local manifestation
arising from its like consequent
upon contagion the influence
confined to the point where the
virus is implanted and not
having the power to contaminate
the general circulation - Whereas
the introduction of Syphilitic virus
into the system gives rise to
such symptoms as declare it
to be a constitutional disease.

In the absence of statements
of the constitutional effects of
Syphilis we cannot accept the
evidence of mere local ulcers

as proof of the existence of Syphilis at that era. In consequence of there being no statements of the after, or constitutional, effects of a venereal ulcer previous to the latter part of the 15th Century, we accept that Term which refers its origin to that Period.

Charles the Eighth at the head of a large army, invaded Italy and besieged Naples, August 1494 - And while there a new and terrible disease sprung up, rebellious to every known method of treatment attacking and destroying all

classes of society and extended rapidly over Europe consisting of ulcers on the genitalia followed by affections of the throat and corroding ulcers over the whole body. The accounts given of its nature correspond with the disease of the present date syphilis - The opinions entertained at that time, respecting the disease, in a great measure correspond with those now held, but they gradually lost hold upon succeeding generations - the confusion of ideas (relative to the two distinct ulcers) following - both considered modifications

which takes on ulceration & increases in breadth and thickness, slightly excavated or frequently elevated above surrounding tissues. The base becomes indurated, the induration assuming nearly always a circular form which terminates abruptly in apparently healthy parts & is freely movable upon parts beneath. The ulcer generally presents a smooth glazed surface, red or grayish hue, has but little secretion, of a serous nature, & requires for its full developement a period of about eight days.

Following the inoculation of the base of the chancre, within a few days or during the first week of the existence of this sore, invariably during the first three weeks of its existence, we have developed the induration of the ganglia in one or both groins, & becoming enlarged, but unaccompanied by any of the symptoms of acute inflammation. They preserve their indolent character throughout the whole course of the disease and do not inflame or suppurate unless aggravated by some cause. The glands in general become indurated,

those at the posterior border of the sterno-cleido-mastoideus muscle, and the glands between the biceps & triceps muscles above. The internal condyle of the humerus, may easily be felt, being most superficial.

After the free development of the chancre the morbid poison lies dormant, during which time symptoms of a general disorder manifest themselves; the patient becomes depressed in spirits, pale, sallow and loses flesh, he suffers from headache neuralgia, pains and a general malaise and listlessness.

Second Stage:- The disease in this stage manifests itself in the cutaneous maculated eruptions, after the appearance of the initial lesion or chancre at a period varying from three to six months - appearing first on the body or chest gradually growing over the whole surface extending to the thighs and then upon the arms. These eruptions are accompanied by mucous papules around the anus and in the throat, giving rise to the characteristic sore throat of the second stage, mucous tubercles also

recognize the chancre at the point of introduction of the virus with its concomitant indurated ganglia. Although considered primary it is properly a secondary symptom for when it appears the system is under the influence of the poison and it is secondary to the period of incubation which has an average of from two to three weeks but may extend to five or six from various causes.

The chancre arises from a point of inflammation in about three days, in the form of a pustule, gradually merges into an umbilicated vesicle,

make their appearance inside of the cheeks, on the arches of the palate, on the lips, on the generative organs and on the rectum, deep ulcers of the tonsils and syphilitic Laryngitis may also occur as concomitants of the cutaneous eruptions. There is also a deposition of the hair & fall out with affections of the eyes — Iritis — and lymphatic engorgement in various parts of the body.

The general characteristics of the syphilitic eruptions are the color, being of a reddish brown, tinged with yellow,

resembling the cut surface of a ham, their scale-like appearance and the absence of pruritis. Psoriasis, the skin is raised, copper colored and covered with scales of hypertrophied cuticle; in the eruption of pimples or Papulae they are merely succeeded by scales or exfoliations of cuticle. The Scaly eruption characterized by its covering of scales and cuticle succeeded by scabs which when falling off leave shallow ulcers with ham colored edges. There are others which to a great extent resem

ble the foregoing in general appearances and are characterized by the general characteristics of the symptoms belonging to this stage of the disease.

The Third Stage;- Symptoms common to this stage are rare, as the disease generally exhaust itself in the eruptions incident to the second stage; however, should they occur they will rarely develope themselves until after the sixth month and perhaps not for some years; they manifest themselves upon the dupcated tissues of

the body in the sub-cutaneous sub mucous cellular tissues - attacking the bones and their coverings - giving rise to acute & chronic periostitis, nodes & exostosis, caries & necrosis, also intractable ulceration, especially of the nose, lips, ears and mucous membranes of various parts of the body - as well as diseases of the glands.

Diagnosis.

We arrive at a diagnosis by specially discriminating between two forms of ulcers found upon the genitalia - disregarding others from their having no similar

characteristics & not presenting the appearance of either of the ulcers hereinafter described.

Should the ulcer present itself in its initiating stage, by obtaining information relative to the period of incubation we may arrive at a correct diagnosis.

The ulcer however, generally presents itself "developed", and we must differentiate by referring to the special character of each: The period of incubation is to be considered, it belonging to Chancre and not to Chancroid.

The general appearance is next to be considered — the Chancroid

usually existing multiple - the Chancre, singly and - the reverse being rare - Is a circular ovoid form, superficial, with floor slightly excavated & edges elevated, indurated, firm, cartilaginous, circumscribed and movable upon tissues beneath, having a red or greyish secretion not auto-inoculable. Whereas, the Chancroid presents the appearance of an excavated ulcer with abrupt edges not adhering closely to the subjacent tissues, with flat worm eaten surface having no indurated base - unless irritated, and then not circumscribed -

having a copious purulent auto-
inoculable secretion.

Accompanying the Chancre we
find all the inguinal glands enlarged
and indurated, freely indurated there
being no pain & rarely ending in sup-
puration. Should the glands in a
Chancroid be implicated, we have
only one affected, generally; this
becomes inflamed often ending in
suppuration, the pus being self
inoculable.

The symptoms, suppuration and
indolence are not of absolute value,
as they may vary according to the disease,
but they furnish a strong presump-
tion as to the nature of the disease.

In the cutaneous eruptions, remedies aid us materially; should we fail to arrive at a conclusion from the antecedents of the case — having found that there was an ulcer coexisting with a suppurating bubo, mercury being contraindicated to some extent — prudence will lead us not to employ it longer than is necessary to test its effects.

Prognosis.

The severity of this disease, like many others, is in accordance with the tone of the system affected, the cure depending upon the effort of nature, in a great measure; We may have the disease assuming

a mild form — in rare cases disappearing without assuming a serious character, or producing a permanent impaired constitution without specific treatment — or it may appear in different degrees between the mild form and that form of the disease which grows worse and finally ends in death. We may conclude — the vital forces in this as in other diseases affording some protection — aided by specific remedies, not administered to an extent to impair the constitution, the tendency of this disease in the majority of cases tends towards recovery.

Treatment.

The reliance upon a class of remedial agents, in treating this disease, ascertained to be specific,-it embraces mercury and its compounds and the compounds of Iodine - attention also should be given to hygiene - a regulated diet simple though nourishing the organs of the system in general, especially the functions of the skin, should be attended to, regular but not excessive exercise, and a total abstinence from all depressing and intemperate indulgencies be enjoined; as the disease lowers its [illegible]

the system, a tonic course of treatment is indicated, and as they fulfill the indications we resort to the preparations of Iron and Quinia — besides having a general tonic effect, the Quinia is supposed to posses an antisalivating virtue and the Iron restores to its normal condition, the blood, which is impoverished, owing to a diminished amount of red Corpuscles producing Chloro-anaemia.

The administration of Mercury in the primary stage is seldom followed by good results and does not cut off the disease

for the system is contaminated before the chancre appears, and only is it administered at the beginning, when great inconvenience and pain is experienced from the size & depth of the chancre & its progress threatens the destruction of important parts, or owing to the relations of parties the avoidance of sexual intercourse excites suspicion; when these conditions exist and it is advisable to administer mercury, the Blue Pill is generally employed, given in doses of 3 grs, gradually increased and guarded as opium

until the healing of the ulcer is established, the remedy to be then withdrawn and followed by the "Potassii Iodidi" combined with Iron to improve the general condition of the system and to lessen the severity of the premonitory symptoms which usher in the Secondary Stage.

"The susceptibility of the patient being unknown, the administration of Mercury should be attended with care, and when the mouth shows the least tendency to salivation it should, for a time, be withdrawn; should the symptoms show no tendency to disappear

under one form of the remedy, another should be tried, for no form of mercury is used exclusively in all cases & in all stages of the disease; oftimes several being tried before one suited to the case is selected, a preparation that agrees with one disagreeing with another; should the constitution become accustomed to one form of mercury, substitute another. There are several forms of mercury used, and one of the most useful and one followed by good results is the "Bichloride", having but a slight tendency to salivate it may with safety be

continued for a long time; it is generally administered in the form of a pill, in the dose of 1/8 of grain, and combined with opium (in 1/4 gr. doses) to allay intestinal irritation, the pills to be administered three times a day - not to be taken on an empty stomach. We may combine, where a speedy action is required - Bumstead recommends = ℞ Pil. Hydrarg. ℈j - Hydrarg. Chlorid. mitis gr x - Hydrarg Cum Creta ℈j - Ext opii gr. x M - XX Pills Commence with one night & morning and gradually increase to three a day, following the rule "suspend when mouth becomes tender & increase should symptoms cease to

tation the Biniodide is generally administered; the Biniodide may be given in doses of 1/16 gr. to 1/12 of 8r; gradually increased to 1/8 gr. in combination with 1/4 gr of opium, administered in the form of a pill two or three times a day.

According to Bumstead, a convenient mode, of decomposing the Bichloride by means of the Iodide of Potassii and administering the Biniodide which is in solution — ℞ Hydrarg. Bichlorid gr ii
Potass Iodidi ʒ ß — aquae ʒ viii
Dose - dessertspoonful three times a day one hour after meals.

As the secondary symptoms decline we administer the Iodide of Potassium - at first in conjunction with mercury as - morning & night, mercury, and at noon, Iodide of Potassium; continue for a short time & reverse the order - commencing with five grains doses of the Iodide of Potassium gradually increasing & continue giving after the Mercury is withdrawn; should unpleasant effects be produced withdraw it for a short while.

The administration of specific remedies should be continued two or three weeks after all appreciable symptoms have ceased to exist.

Should any symptoms re-
appear the treatment will
depend upon their nature,
and to what stage they apper-
tain, bearing in mind the
fact of early symptoms
yielding most readily to
Mercury, the tertiary to the
Iodide of Potassium.

L. L. Macgowan

To the Board, Regents and Faculty
of The University of Maryland
School of Medicine.

Gentlemen:

I respectfully
Submit to your consideration the
reports on Six cases of various diseases
which came under my personal observation
while a resident Student of the
Maryland University Hospital, during
the year 1875.

I am Gentlemen,
Respectfully Yours,
Wilmer Brinton.
Class 1875 & 76.

Reports on a case of Erysipelas

March 13th 1875.

Coleman King a native of Ireland, thirty years of age and a laboring man by occupation entered the Infirmary to day. The Resident Physician assigned him bed no 83 Basement Ward. The patient reports himself as feeling unwell since the 8th ist, he presented the following Symptoms viz: Face very much swollen and inflamed. Pulse 100. Temperature 101. Complains of head ache, weariness, pains &c. Suffers much from want of Sleep and later in the evening he presented almost a Semi-Comatose Condition.

March 14th. Dr Worthington (Resident Physician) ordered for him this morning ℥i of "Tinct. Ferri Chloride, every two hours, also ordered for him as a local application to his face "Rye flour and Collon". Which Professor C. Johnston, thinks is one of the best that can be used in facial Erysipelas. March, 15th. The patient in the same condition. Pulse 103. Pain and heat very intense in his face, Seems to be quite delirious at times, has no appetite and no operations from his bowels since his admission. Complains much of being unable to sleep. Potass Bromide Grxx was ordered for him to night for obvious effects.

March 16th. Pulse 100. No improvment in general condition. Ordered for him as local application to face Rx. "Sanatus Oil" which consist of one part of "Acidum Carbolic" to ten of "Oleum Linii". March 17th. Pulse this morning is 100, Did not have much sleep during the night. Face is not quite so painful. Seems to remain in a stupid condition all of the time. Had a good operation from his bowels during the night, Pulse in the evening 94. Potass Bromide Gr xx was ordered for him to night. March 18th. Slept well during the night and feels much better this morning. Appetite seems to be improving. Pulse 84. Temperature 99.

March 19th. Pulse 80 and good. Appetite good. The "Tincture of Ferri Chlinde" and the local application of "Rye flour and Cotton" continued. March 20th. Pulse 74. Reports himself as improving. His bowels have became quite regular and has an operation every twenty four hours. March 21st. Pulse 84. he says he is begining to relish almost any kind of food, of course his diet consist of light and nutrious articles of food. March 22 ond. Redness and pain is fast leaving his face, also the swollen apperance which it first presented. Sleeps well now without the use of narcotics &c. Temperature, Pulse and Respiration are in a normal condition.

March. 23rd. 1875. Appetite good, and operations from bowels normal.

March 24th. Pulse 75. Still improving with the exception of pain in his head. The pain and redness of face is disappearing rapidly. Sleeps much better than heretofore.

March, 25th. Improving rapidly and is walking about the ward to day, all of the functions of his body seems to be resuming their natural condition. The preparation of Iron has been given in ʒi doses all through his illness.

March. 26th. Sleeps well. Appetite good. March, 27th. Swelling and redness of face entirely disappeared. Talks of leaving the hospital in a few days.

March 28th. Pulse 68. Appetite good. Respiration and Temperature normal. Sleeped as well as he ever did, and informed me this day that he thought he was well enough to leave the hospital.

March 29th. On account of the repeated request of the patient Dr Worthington, gave him his discharge this evening and he immediately left the hospital with his health fully restored.

Remarks on Erysipelas

This disease may be due to an idiopathic or traumatic origin, but there are no doubt but what it is due to the latter caused in the majority of cases. Prof. Johnston, thinks this disease is caused by a specific poison in the blood and cites for his defense the symptoms, Epidemic Character &c. A great many writers on this disease contends that its pathological character is unknown. The various forms of the disease is divided into The "Cutaneous" "Cello-Cutaneous" and "Cellular or Areolar", which is a diffuse inflammation of the areolar tissue.

Reports on a case of Intermittent Fever.

April 1st. 1873. Jerome Hefford, age 51. A farmer by occupation and a resident of a malarial district in the State of Iowa, entered the Infirmary to day and was assigned to bed No 61 St. Vincents Ward. He stated that he had been suffering from "Chills and Fever" for the two weeks previous and owing to a peculiar idiosyncrasy he was unable to take Quinine. We found him suffering from the Tertian form of the disease, his chill lasted from one to two hours and is followed by the febrile and sweating stage.

The sweating and febrile stage last from six to eight hours. The patient complains of feeling weak and he presents the peculiar pathognomonic pallor of persons who are suffering from this malarial poison. Appetite poor, bowels constipated, Calomel Gr x, and four grains of "Cinchonidae Sulph" was ordered for him immediately, and the antiperodic was to be continued every two hours.

April 2ond. The bowels were acted on in a splendid manner by the Calomel.

April 3rd. To day which has been his regular day for his chill for the past two weeks has passed by without the chill. The patient is very much elated with his treatment.

April 4th. The patient continues to take his four grains of "Cinchonidae Sulph" every two hours. No chill to day and he reports himself as improving. Appetite improving, Bowels regular, Pulse, Temperature and Respiration about normal.

April 5th. No chill to day and his medicine was ordered to be discontinued.

April 6th. Our patient left the hospital this evening with the chills broken up for the present at least. The reason why we prescribe "Sulphate of Cinchonidae" in our hospital is on account of economy but we always have to give from two to three grains to produce the same Effect as one grain of Quinine.

Remarks on Intermittent Fever.

The causation of this disease involves a special morbific agent commonly known as Malaria, I need not here enter in regards to causation and effects of this disease, but in a limited paper like this, I can not even give them a passing notice. We have three simple types of this fever. Viz: The "Quotidian," "Tertian and "Quartan" forms. In this country according to statistics we find the Quotidian type predominating, but in my hospital Experience I have seen most of the Tertian form. Quinine in some form seems to act as a specific in this disease.

Reports on a case of Pneumonia.

March, 27th. George Kingcade a laborer, age 22 resident of Baltimore, entered the hospital this morning and was assigned to bed No 50 St. Vincents Ward. He was in a prostrated condition had very high fever and complained of great pain in his chest. Was first attacked some four days previous to date with a chill, depending upon physical signs his case was diagnosed pneumonia. March, 28th. Morning Temp-arture 104 1/4. Evening Temp 104 3/4. Resp. 36. Pulse 110. Prof. F. Donaldson ordered for him Dovers powders gr x, every two hours,

also Liq. "Ammonae Acet." ℥ii in combination with ℥i of "Spt. Aether Dulcis" every three hours. March 29th. The fine crepitant rale of the first stage has disappeared and we have great dullness upon percussion. Morning Temp. 103 3/8. Eve. Temp. 104 1/2. Pulse 118. Respiration 40. March 30th. Complains of being unable to sleep and seems to suffer much pain. The Dovers Powders were ordered to be given oftener. March 31st. Complains of much pain and still no sleep. Prof Donaldson ordered for him this evening ℥ss of "Spiritus Frumenti" and five grains of "Ammonae Carb" very two hours, also ordered a oil silk jacket for him to wear over his breast.

His milk diet was also ordered to be increased.
Morning Temperature 102. Evening Temp 102½.
Pulse 92. April 1st. Reported himself as
having had a Good Sleep during the night.
Morning Temperature 102. Eve. Temperature
102½. Respiration 46. Pulse 84. April 2nd
Temperature 101. Resp 42. Pulse 80. had
the best night sleep since he has been here.
The Powders was ordered to be
given every six hours instead of three.
April 3rd Morning Temperature 100¼.
Pulse 76. Resp 40. Eve. Temperature 99¼.
Resp 34. Pulse 56. The marked decrease of
the pulse could not be accounted for. April 4th
Temperature Pulse and Respiration are
about the same as those of yesterday.

March 5th. Returning crepitant rale upon left side quite distinct and that side is also becoming quite clear upon percussion. Reports himself as much better. Sleeps well and has a good appetite March 6th. Temperature 98½. Pulse 84 Resp. 40. March 7th. Temperature normal. Respiration 36. Pulse 62. Sleeps well during the night and wants some other food beside milk. "Sulphate of Quinine" Gr x was ordered for him to be taken during the day. March 8th. Pulse and temperature and in a normal condition. His diet at present consist of milk, tea. Soup &c. and which he reports himself as improving

March 9th. Pulse 56. Temperature 98 1/2
Resp. 36. Prof Donaldson diagnosed
to day a double aortic regurgitant
murmur which is supposed will account
to some extent for his peculiar pulse.
March 10th. Reports himself as feeling
well & pneumonia, but finds quite weak.
has not had meat as one of his
articles of diet. With the exception of
a slight pleuritic friction murmur
the lungs seem to have recovered its
normal action. March 11th. Respiration
and Temperature normal and Professor
Donaldson announced to him to day
his recovery from his lung trouble.

Remarks on Pneumonia.

This disease is an inflammation of the lung tissue and is characterized by an exudation which does not lead to the production of new tissue and adhesions as we have in Pleuritis, &c. Prof. Flint in his valuable book on "Practice of Medicine" says of this disease "In a large proportion of cases of acute Pneumonia, the disease is developed spontaneously." He seems also to have a predisposing cause in a great many cases by exposure to the vicissitudes of the weather &c".

This disease occurs at all ages but is most frequent between Youth and middle age.

Reports on a case of rheumatism.

May 29th. James Marshall, aged 26, a native of one of the lower counties of Maryland and a laboring man. Entered the hospital to day and was assigned to bed No 49 St Luke's Ward. Was first attacked eight days previous with intense pains in his joints — especially his knee and shoulder joint. Has very high fever and bowels constipated. Has had great thirst for a week and nothing seems to give him relief. has no appetite.

The patient was found on examination to have decided heart complication involving both the Mitral and Aortic Valves.

Temperature 102°. Pulse 100. Urine being decidedly acid. Sleeps poorly and seems to be suffering much pain. May 30th. Prof. Howard ordered for him 5i of "Potassa Bicarb". Three times during the day ten grains of Dovers Powder at night. June 3rd. The urine being quite alkaline to day the dose of "Potassa Bicarb" was reduced to thirty grains "Ter Die". The patient was dry cupped over the spine and was also ordered "Linimentum Stokes" for local application and later in the morning he seemed to be much better, his fever is not quite so intense and his bowels are more regular than they have been lately.

June 7th. Pulse 95. Appetite improving. The patient thinks he is improving although he suffers much pain. The alkaline medication is still continued. June 8th. The local applications &c. are still continued. The urine was slightly acid when tested this morning. Sleeps well. Pulse and temperature each 100. June 9th. Pulse 100 and quite weak, he thinks he is improving. Bowels open and appetite good, his diet consist of milk, bread, meat &c. June 10th. Dr Howard noticed the continued rapidity of his pulse and could not account for the same and ordered for him. ℞ "Tinct. Digitalis" and "Tinct Aconite" aa ʒiv. Dose Gtts x "ter Du"

June 13th. The pulse continues rapid notwithstanding Professor Howards proper medication, they number 120 this evening. June 14th. At the present time he suffers less pains than he has for some time in the past, complains of being very weak although he took his first walk around his ward this morning. Appetite and bowels are in a good condition. June 16th. Took a short walk out in the streets to day. Still complains of being weak and "House Tonic" in ʒi doses "ter Die" was ordered for him. June 18th. The alkaline medication is still continued although in my opinion the urine is normal. I am inclined to think the normal pulse of this man is 90.

June 19th. Has had an attack of "Cardiac" "Bismuth Subnitis" Gr xx was ordered for him and acted in a charming manner

June 25th. There has been no marked symptoms in this patient case during the past week. The appetite and bowels are in a good condition, He gaining flesh rapidly, walks out every day, has no bad symptoms and I would suppose no necessity of him placed on the sick list any more. June 29th. The patient left the hospital this morning for his home having fully recovered his health &c. This man's normal pulse was 90. I suspected the same during the existence of his disease.

Remarks on Rheumatism.

The views now held by most modern pathologists are that in this disease we have a "Materies Morbi" existing in the blood. Most pathologists have accepted the theory of Prout, which is that the "Materies Morbi" which produces this disease is due to an excess of "Lactic Acid" in the blood. This principle circulating with the blood acts upon certain parts and gives rise to local manifestation. It shows an election for the fibrous tissues, especially of those entering into the composition of the large joints &c.

Remarks on a case of Scorbutus

June 4th. Henry Leger a native of England. Age twenty four years and a Sailor by occupation entered the hospital to day and was assigned to bed No 41 St. Lukes Ward. His history was as follows, Viz. He shipped on board of a vessel which sailed from Cardiff England, in May 1874, and was on a continious voyage of some thirteen months without being on land more than a few hours at a time during the which period, the diet on board of the ship was always scanty, and fresh meats and vegetables was a luxury which they did not indulge

in more than three or four times during
their long voyage, their principles diet
consisted of salt meat, bread &c. The crew
of the ship was very much exposed to the
inclemency of the weather and also had to
labor very hard. Two months previous to date
he and fifteen other men out of a crew of
Eighteen had an eruption to break out all
over their bodies especially in their lower
limbs. And from this time until he
entered our hospital the patient was
exposed to original causes without any
medical attention. June 4th. The patient
presented the following symptoms. Viz.,
His Gums very much swollen and
inflammed and has had frequent

hemorrhage from them, teeth very loose and has pulled one or two of them out. The eruption on his body still very distinct, complains of pains and of great weakness, Bowels very irregular, has not been able to sleep much at night for some time past, Limbs very much swollen and edematous, Prof. Howard seen him to day and ordered for him twenty drops of "Vinct. Ferri Chloridi" every two hours, also ordered for him an exclusively vegetable diet and advised him to walk in the air, sun &c. — as much as he could,

June 7th. Even in the space of three days we can see the good effects of the above treatment. There are marked improvements,

June 9th. Improving in all respect with the exception of a continous pain in the back. Appetite is improving and in fact the patient says the Sisters do not give him enough to eat, and that he purchases a good many articles of diet outside of the hospital. His bowels are becoming more regular. June 12th. The preparation of Iron is still continued and is doing much good, both on account of its tonic effect, and also upon its acidity which is supposed to be peculiarly beneficial in the treatment of this disease. June 15th, continuing to improve rapidly. The eruption on his body has almost disappeared. Appetit good. Bowels regular.

June 16th. Sleeps well and is looking much better in every respect. The patient says he is "beginning to feel like himself again." His gums which were so sore and swollen when he first entered the hospital have resumed their normal condition.

June 17th. On account of being desirous of returning to his home in England, and having an opportunity at the present time of doing so, he received his discharge from Dr Shelby, (Resident Physician) to day. We are no doubt but what a continuation of a week or so more upon a vegetable diet will find him in fully restored health.

Remarks on Scurbutus

This disease is one of dietitic origin, of this there are no doubts, and is due to an insufficiency of nutritive principles contained in a vegetable diet. The essential blood changes in this affection are not as yet definitely determined upon. Garrod considers that the special deficiency relates to the salts of Potassa. This disease prevails to the greatest extent among Sailors who are exposed to the privations of long sea voyages, without proper precautions being taken in regards to their comfort, provision &c.

Reports on a case of Typhoid Fever,

September 2nd, George Gibson, a native of Denmark, and a sailor by occupation, age 22 years, entered the Infirmary to day, and was assigned to bed No 52 St. Lukes Ward, His history is as follows, Viz: Was first taken sick ten days previous to date, and has been confined to bed "more or less" ever since, he informed me that his first symptoms was that of a chill, followed by general lassitude, languor &c, His symptoms when he entered the hospital, was as follows, Pulse 100, Temperature 103, Respiration 35, Bowels very loose, and has had several operations during the day Complains of pain in the left Iliac region, which is increased on pressure, Complains of not being able to sleep much, and is in a semi comatose state,

September 3rd, Morning Temperature 104. Pulse 96.
Respiration 38, Prof. Miles, seen him to day and ordered,
for him "Acidum Muriatic Dil." Gtts xii. four times
a day, also ordered Milk & whisky every two hours, and
as much ice &c as he desired, The patients pulse has
a peculiar intermittency in its action, "Evening
Temperature 105. Respiration 38, Pulse 96,
September 4th, Temperature 104. Respiration 41 Pulse 84,
Bowels continue very loose, and had eight operations during
the night, Rose clored spots quite plain upon his
abdomen this afternoon, Prof Miles ordered for him
"Turpentine Stupes" to be applied over his abdomen,
The acid treatment was discontinued, and instead
"Oleum Terebinthinae" Gtts xv, was ordered every four hours,
"Evening Temperature" 104. Pulse 70. Respiration 45,
Complains of being unable to sleep either during day or night,

September 5th, Temperature 103, Pulse 110, Resp 45, Slept much better last night, owing to the influence of "Dover Powder" Ex, The tongue forments the peculiar Typhoid appearance, and the rose colored Spots upon the abdomen have disappeared, and a new crop made their appearance to day. September 6th, Temp 103½ Resp 50, Pulse 110, Evening Temperature 105, Pulse 120, Resp 49, Seems to be in a low condition, Epistaxis occurred this morning, Has had a great many operations from his bowels during the past 24 hours, Vv. Kino & Opium was ordered for him to check the same, Later in the evening the patient had involuntary dejections, ℥ß of whisky was ordered for him, and about 9 O. Clock, P.M. two of us Students, gave him a sponge bath of Alcohol & Water, which improved his condition much, and lowered his temperature 1½ degree,

September 8th. Patient ill during the night.
Temperature 102. Pulse 110. Respiration 48, His
whole diet at present consist of milk & whisky, &
the morning the condition of the patient became worse,
face become very much flushed, and is delirious. Pulse 116.
Respiration 42. Temperature 103. September 9th, The
patient is this morning reported much worse,
that my patient did not sleep much during the
night, also was constantly tossing his head, Evening
Temperature 104. Pulse 120. Resp. 56, Seems to have a dislike
to his food, which however he is forced to take,
Evening Temperature 103. Pulse 120, Respiration 55,
September 9th. Had another hemorrhage from the
nose this morning, and is in a continuous state of low
delirium, Evening Temp. 104. Pulse 130. Respiration 55,
Diet diet consist of milk, whisky, and occasionally beef tea.

September 11th, Temperature 102. Resp 48. Pulse 120.
September 12th, Morning Temperature 102. Respiration 50
Pulse 120. Evening Temp 103. Pulse 110. Respiration 50.
September 13th, Has involuntary dejections again; the
Vinct of Kino & Opium was again ordered for him, he
also to day shows marked "Subsultus Tendinum" &
"Carphologia" September 14th Temperature 103½
Pulse 140. Respiration 48, Evening Temperature 104,
Pulse 150, Respiration 50, Prof. Weiler ordered the dose
of "Turpentine" to be increased; September 15, Temp 100,
Pulse 116, Resp 50, The patient is more conscious this
morning, but still is in a very low condition. The milk
and whisky is given to him every two hours, September 18th
During the past three days, the temperature, Pulse, &c
have been ranging as before reported, but some time
during the night there was a change for the better—

The temperature being only 99 this morning, which is the lowest since he entered the hospital, he has a great many operations from his bowels during the day which indicates bad condition of the intestines, He slept well during the night, Professor Miles, ordered "Turpentine Stupes" to be be placed on his abdomen again, September 23rd. Temperature 100 3/4. Pulse 114. Respiration 40, Evening Temperature 101. Pulse 116. Respiration 40, September 27th. The patient is improving some, the tongue is cleaning up from the edge, The patient has a great desire to eat, which of course is not gratified to any extent, October 4th. The temperature is now 98, Pulse 100. Resp. 30, The patient is now fully conscious, and seems to appreciate how near death he was, his bowels have became

more regular and are resuming their natural tone,
All of his medicines were discontinued to day, and
orders were given that he should have as much
Milk, beef tea, as he wanted, October 5th, Pulse 100,
Temperature 99. Sleeps well and is slowly regaining
his strength, October 16th. The patient continues
to improve, Temperature & Respiration about normal,
Pulse 100, Tongue fully cleared up, complains
of pains in his left leg, which is also very much
swollen, As the patient presents an anemic
appearance, "Tincture Ferri Chloride" Gth xxx Ter Dec,
was ordered for him to day by Prof. McSherry
October 20th, Is improving rapidly in his
general health under the influence of the
preparation of Iron, his left leg has become
very much enlarged, and the patient says

he suffers much pain from the same, The legs presents an appearance similar to that of "Phlegmasia Dolens or Milk Leg" which is so frequently found in women after giving birth to children, Professor McSherry says it is quite a frequent sequele of Typhoid Fever, and attributes the same to an impediment in the return of the venous blood to the heart, The seat of the obstruction in this case is probably in the left Iliac Vein, Prof. McSherry ordered for him "Linimentum Saponis" with which he was to rub his leg several times a day, was also ordered to remain in bed and to keep his limb elevated, November 1st, The patient continues to take his preparation of Iron, but seems to be improving in a slow manner,

He also continues to use the leg with the bandage, but it remains about the same size.

"December 13th" During the past two weeks the leg has gradually become smaller, owing to the assiduous application of the stimulating liniment &c, &c. The patient is allowed to walk around the ward of the hospital, with the assistance of a crutch, is also allowed to walk around the portico, where he meets and comes under the influence of the genial sun rays, which combined with the preparation of iron which he continues to take, has been the means of bringing the ruddy glow of health back to his cheeks. The patient is also in a much more cheerful mood, and contemplates with much pleasure his improvement,

November 30th. Pt. has not continued to improve in his general health, and his leg is becoming smaller, and is now walking around the hospital without the aid of a crutch.

December 7th. Pt. - being an inmate of the "Maryland University Hospital" for over three months, the patient left this morning to return to his native country. He has fully recovered the use of his leg, although it still remains somewhat large - than it is normally.

Remarks on Typhoid Fever.

This is an Zymotic disease, which has characteristic anatomical lesions, by Inflammation and ulceration of Peyers patches, and also of the Mesenteric glands. The cause of this disease is not definitely known, but supposed to be due to Excreta from the patients, which is taken into the human System in the form of ingesta, bad Ventilation, also putrescent animals and Vegetable matter, all of which have been known to produce this disease. This disease is not considered by the Pathologists of the present day to be Specifically contagious, but yet it is made on the part of the physicians, not to admit

persons in an indiscriminate manner, into the
room of a patient ill with this fever,
Typhoid Fever, is more frequent in the Autumn
Months, and is most common between the age
of 15 & 30 years, and very seldom occurs
over forty years of age; for after that age the
patches of Pyrus gradually disappear,
This disease therefore is unlike "Typhus Fever"
which may occur at any period of life,

University of Maryland.

1875-6

Amputations & Disarticulations

by J. C. Worthington Jr.

Amputations.
and
Disarticulations.

Amputation means the separation or removal of a part of the Body through continuity of Bone, except in amputations of the Breast, and Penis. When done at a joint it is called Disarticulation.

The Instruments used, are the Knife, Artery-forceps, Retractor, Saw, Tourniquet, Bone-plier, and Ligature. The Patient should be under the influence of an anaesthetic. In amputations the Surgeon has the choice of several methods: The circular, in which the skin and superficial fascia are divided by one sweep of the knife, and retracted, or dissected up for a short distance. The muscles are then divided by another circular sweep of the knife on a line with the skin,

and then retracted for a distance of one or two inches, when the periosteum is scraped up, the saw applied, and the bone divided as high up as possible; the arteries are then ligated, and the edges of the skin brought together, leaving the stump ample covering. In the thigh and leg, the posterior muscles should be cut longer than the anterior, to allow for their greater contraction.

Next, The flap amputations, of which there are several kinds

Namely—, The long single flaps, the one long, and one short square flaps, and the double flaps; the one which is most frequently done, and of which I shall proceed to speak.— The flaps may be made either by cutting from without inwards, which in some situations is more convenient, as on the outer side of the fore-arm and anterior part of the leg, or by transfiction, which is made use of in the fleshy parts, as the arm or thigh.

By transfixion is meant the cutting from within outwards. The length of the flaps must be proportioned to the thickness of the limb. There is also a combination of the double flap, and circular methods, which is especially applicable in very muscular parts, or those which contain a great quantity of adipose tissue. It consists of two semilunar incisions with their convexities downwards, made through the skin from side to side. The flaps are then dissected up as far

is the angle formed by their union, the amputation being finished as in the circular method. This operation has its advantages over the circular, and flap methods, by not having such a mass of muscle in the stump; which will not only be absorbed, but may slough, or undergo various other pathological changes, and thereby very much lessen the chances of recovery.

Teale's amputation is done by a long anterior, and short-

posterior flaps, that is—, the
anterior or long flaps should be
equal in length, and breadth
to half the circumference of
the limb at point of amputation.
The posterior or short flaps being
one fourth the length of the
long one. (This method is not
much used, except by
Mr. Teale.)
The long single flap is made
use of in operations on the Pha-
langes. In order to prevent loss
of Blood, which is the
great danger in amputations
Esmarch's Bandage should be
used, the application of which

is as follows:— Commencing at the periphery, the limb is bandaged from below upwards by means of a strong rubber bandage which forces the Blood from the capillaries, arteries, and veins by its contraction. An elastic ligature is then tied around the limb at the upper margin of the bandage, which is then removed, leaving the member ready for operation. The application of the saw should not be made until the bone is cleared of all tissue and a flap made of periosteum,

after which a retractor may be applied and the soft parts kept out of the way by the aid of an assistant. When there are two bones of equal strength, as in the fore-arm, they should both be cut through at the same time; but in operations on the leg, the Fibula, being the weakest, should always be divided first. If there are any projecting pieces of Bone the Bone-pliers should be used. After the removal of a member the first thing to be done is to restrain arterial

hemorrhage, which end may be accomplished by ligature, torsion, or acupressure.

The ligature is generally used, as it is the surest, and consequently the best method. After the artery is tied one end of the ligature should be cut off close to the knot, and the single thread brought out at the lower end of the wound, to be retained in position by the application of adhesive plaster. The sutures may be of silk, thread, silver-wire, &c. as the operator

chooses, and should be
inserted through the lips
of the incision at shorter,
or longer intervals according
to circumstances; but always
leaving an aperture of suf-
ficient size at the most
dependent part of the
wound for free drainage,
this being one of the most
important items of the af-
ter treatment.
The flaps may be retained
in position by strips of
adhesive plaster. The dressing
of a stump is very simple,
consisting principally of

wet lint, Oakum, Cotton &c. kept moist with cold water, and some antiseptic, as. carbolised water Salicylic acid &c. The dressings should be changed often, the parts kept clean, and have good drainage. All weight must be kept off of the limb by means of a wire cradle. Union takes place as in any incised wound, but very seldom by first intention. The after treatment consists in relief of pain, simple though nourishing diet, stimulants if needed.

attention to the bowels, rest;
and quiet. The mortality of
amputations increases as
we approach the Trunk.
Having spoken of amputations
in general, I will now
proceed to those of a special
character, commencing with
the Phalanges, which may
be removed by making a
long palmar flap. The thumb
should never be removed
entirely, as there would then
be left no opposing medium
to the fingers. In amputa-
-tions at the wrist an arched
incission should be made

, With the convexity looking towards the hand, from one Styloid process to the other across the back of the joint. The articulation is then opened, the lateral liga-ments cut, and the knife carried forwards along the palmer surface of the hand for a sufficient distance, to make a good flap; care be-ing taken not to hook the knife in the Pisiform bone, which is very prominent. The artiries to be ligated are the Radial, and Ulna, with seve-ral smaller branches.

Amputations of the Fore-arm may be done by the circular or flap methods, the flaps being cut from without inwards, as before described. The arteries are the Radial, Ulna, and Interosseus.

Amputations of the arm may be done by lateral flaps, made by transfixing and cutting outwards. There is usually but one artery to tie - The Brachial.

In disarticulations at the shoulder joint, transfiction may be practised, a long narrow bladed knife being needed.

The Surgeon's position in this, as in all other Operations must be the one most convenient to himself. Two Assistants are necessary, - one to manage the limb, and another to compress the artery, and thus prevent hemorrhage. This would be unnecessary, but for the fact that it is impossible to apply a Tourniquet to this part of the body so as to compress the vessels. The Knife should be entered mid-way between

the Acromion and Coracoid
processes, passed directly over
the joint; and the point
appear at the posterior fold
of the Axilla. The capsule
is then cut across, attach-
-ments of muscles divided,
the head of the Bone
pressed out of the Glenoid
cavity, and the knife passed
behind it and carried
down for a sufficient distance,
being kept close to the
bone. The Assistants hand
should follow the knife,
and when he has the
Axillary artery under his control,

the Surgeon cuts across and forms his inner flap. There are several small arteries to ligate besides the Axillary. In amputation of the foot it is best to consider it as a single bone, and leave the patient as much to walk on as possible. In some instances however, where the foot is too badly disorganized, from disease, or injury, to save only a small portion of it; there are two operations which give excellent results viz.— Pirogoff's, and Syme's; the latter

of which is done as follows:-
The point of the knife being
entered just below the
malleolus of the Fibula,
is carried downwards, and
a little backwards to the
inner side of the ankle
at a point just below the
malleolus of the Tibia.
The extremities of the incis-
-ion thus made, are then
joined by another passing
in front of the joint.
The next step in the opera-
-tion is to dissect the flap
from the Oscalcis, which
is very difficult, owing to the

through inelastic tissue of the heal. The lateral ligaments and the Tendo-Achillis should next be divided and the foot removed. The malleoli must then be sawn off, the plantar arteries tied, and the flap brought up, through which an incision should be made for the purpose of drainage. The only difference between this operation, and that of Pirogoff, is that in the latter, the head of the Oscalcis is left in the flap. Amputation of the leg may be done

as in the Fore-arm, that is, to make flaps by cutting from with-out, inwards, or it may be done by Teale's meth-od. The artiries to be ligated are the anterior, and posterior Tibial, and the Peroneal. In saw-ing the Tibia the sharp anterior edge should be sliced of obliquely, to prevent pyro-ration or sloughing of the flaps at that point, from pressure. The Disarticulation of the knee joint may be done in sev-eral ways, one of which consists of a long anterior and short posterior flap, and is

down as follows:- The knife is entered at the posterior part of one condyle of the femur, carried strait down the limb for a sufficient distance, then across, and up to a corresponding point on the other condyle. The patella may, or may not be removed, as the operator chuses, if left in the tendon of the quadriceps extensor should be divided. The ligaments should then be cut, the limb being forcibly bent, and a short posterior flap made. The only large artery to tie is the Popliteal.

The Thigh may be amp-
-utated by the circular,
the double flaps, or what-
is still better in this
part of the body; a combi-
-nation of the double flaps,
and circular methods.
(As before described,) The femoral
artery with several small
branches must be tied.
The disarticulation of hip-
-joint is similar to that of
the shoulder. The bony points
being the anterior superior
spinous process of the
Ilium, the greater Trochanter,
and the Ischium Bone.

Listers Aorta compresser may be used in some cases, but far better is the hand of an assistant; to follow the knife, and grasp the artery, as in the operation at the shoulder joint:
The arteries to be ligated are the Femoral, Sciatic, External circumflex, Profunda &c.

F. W. Worthington jr.

A Treatise
on
— Diphtheria. —

Submitted to the Faculty
of the
University of Maryland.

" " "

— Diphtheria —

The consideration of this disease is rendered somewhat difficult and perplexing to the student of medicine by the antagonism of opinion which exist in regard to certain cardinal points —
Two theories divide the medical mind of the present day on this subject. The one regarding Diphtheria as primarily a constitutional disease characterized by definite local manifestations. The other defining it as a local disease in which the constitution becomes accidentally involved by the absorption of septic material

Though able writers may be cited in support of either of these opposing doctrines, yet, as the majority of American authors, among whom may be mentioned Flint and Meigs & Pepper, advocate the former of them it will be adopted in this brief treatise —

The following definition of Diphtheria is extracted from Meigs and Pepper on diseases of children —

Diphtheria is an acute febrile, moderately contagious and infectious asthenic blood disorder, occurring both endemically and epidemically; without characteristic

istic eruption, and distinguished by a disposition to the formation of false membranes upon inflammed mucous surfaces, especially in the fauces, or upon abrasions of the cutaneous surface —

The history of this dreaded scourge may be related in few words or may be traced back to a period, in all probability, anterior to the time of Hippocrates — Aretaeus, who flourished in the second century of our era, makes mention of it under the titles of Malum Syriacum and Malum Aegyptiacum — From these ancient dates we may follow it to the year 1771, never loosing sight

of its ravages throughout the middle
ages, when it prevailed as an epidem-
ic in this country and called forth
the able paper of Dr. Samuel Bard,
which, though among the first, still
ranks as authority upon this subject

The next account worthy of note
was that published by Bretonneau
whose attention was called to the
disease by an epidemic which oc-
curred at Tours about the year 1820,
and to this author we are indebted
for the name by which it is now
known — He denominated it Diph-
theritis, from the Greek Διφθερα,
a skin — hence the more modern
name, Diphtheria

since the period of Bretonneau's publication its prevalence has been almost universal, and in this country it is regarded as one of the common diseases of childhood, though one of the most fatal ills to which flesh is heir

Nature.

According to the views adopted in the setting out of this treatise Diphtheria is to be regarded as primarily a constitutional affection giving rise to certain local lesions, but to this statement, as before intimated, there are still many dissenting voices who cling to the original theory of Bretonneau

regarding it as essentially a local disorder, and contending that the constitution becomes secondarily involved by the absorption of septic material — For the support of this latter theory the presence of various cryptogamic vegetations has been invoked, among which may be mentioned the Odium albicans, Leptothrix buccalis, and more recently Bacteria have been settled upon as the offending microscopics —

However this may be, it is a well established fact that the constitution does become involved and according to the most reliable

regarding it as essentially a local disorder, and contending that the constitution becomes secondarily involved by the absorption of septic material — For the support of this latter theory the presence of various cryptogamic vegetations has been invoked, among which may be mentioned the Odium albicans, Leptothrix buccalis, and more recently Bacteria have been settled upon as the offending microscopics —

However this may be, it is a well established fact that the constitution does become involved and according to the most reliable

observers, constitutional symptoms are manifested in the vast majority of cases before the appearance of the pseudo-membrane

Causes ——.

"In regard to the epidemic and occasionally endemic nature of Diphtheria the evidence is unanimously & overwhelming" and, although the propagation of this disease by means of a virus is still an open question in the scientific world, yet, by the practitioners of medicine it should be considered as both contagious and infectious—

In support of this assertion numerous & unequivocal could be adduced in which

the communication of the disease could be traced directly to the inhalation of contagious matter; as, for instance, in the case of Prof. Frick, the late Prof. of Practice in University of Md., who fell a victim to Diphtheria by attempting to blow into the larynx after having performed tracheotomy on his patient — Numerous other cases might be cited in evidence of this much contested point, but limited space prohibits further enumeration —

Diphtheria rarely occurs sporadically although cases are on record whose cause could not

be otherwise explained — In a word, it may be stated that Diphtheria is a zymotic disease and like all zymotic diseases having its own special cause, and that this cause may appear as an epidemic or endemic according to circumstances and may propagate itself either in the form of virus or miasm —

Age exercises a predisposing influence in the production of Diphtheria, the majority of cases occurring between the age of 3 and 10 years, No age however is exempt from an attack —

Various other extraneous circum-

stances, such as neglect of the laws of Hygiene, inferior alimentation, exposure to vicissitudes of weather &c — exercise an influence in the production of this as of most other diseases, though not to a marked degree —

It prevails much more frequently during the Fall and Winter months than during the Spring and Summer, though cases are liable to occur at any season of the year —

Both sexes are alike liable to attack of Diphtheria

— Morbid Anatomy —

The pathological features which may be considered under this

head is the presence of a false membrane preceded by circumscribed inflammation of the surrounding mucous surface, or, in other words, the local affection characteristic of this disease is an inflammation of a mucous tissue attended with the production of false membrane

And just here it must be borne in mind that neither the exudation nor its amount is dependent upon the intensity of the inflammation, but is the product of a peculiar kind of inflammation and is an exception to the rule in regard to mucous surfaces—

This local symptom first manifests itself, in the majority of instances, upon the soft palate and tonsils, one or both of which may be involved, and in mild cases may be limited to these points. Usually however other parts become coated with false membrane, such as the pharynx, nares, oesophagus, and in desperate cases the air passages down to the minutest bronchiles and, indeed, in some cases the conjunctiva, anterior and posterior nares, in a word, mucous surfaces or dermoid tissues regardless of situation or function,

are liable to the same misfortune —

It may be well, before proceeding further, to consider briefly the structure and mode of development of this pseudo-membrane — As yet, Microscopists have been unable to detect any essential difference in structure and composition between this and the false membrane attendant upon true croup — It is composed of the elements of corpuscular lymph, to which may be added Bacteria and cryptogams ad infinitum, which have been discovered and speculated upon by ingenious observers,

but the consideration of which need not detain us here—

A characteristic feature of the pseudo membran is, that it is stratified, being deposited in the form of layers from a sero-mucous exudation which, according to Empis and others, takes place prior to the formation of the ~~the~~ membran— This sero-mucous exudation is situated beneath the epithelium, which is destroyed & thus permits the false membran to adhere to the mucous surface denuded of its epithelial investment—

Its color is usually that of parchment, though this may be variously altered as by the presence of blood &c

which sometimes gives it the appearance of being gangrenous —
True gangrene and ulceration are rare. If life be sufficiently prolonged the false membrane becomes loosened and is ejected to be followed in many instances by a second, or even a third formation. Care must be taken to discriminate between pharyngitis with follicular secretion and Diphtheritic false membrane — Besides the formation of false membrane, the only anatomical feature worthy of note is enlargement and tenderness of the lymphatic glands of the neck, especially the parotid & submax. & they rarely proceed to suppuration —

Clinical History

The development of Diphtheria may be preceded by premonitory symptoms, whilst in many instances there is an entire absence of any indications of an impending attack and its presence is only ascertained by an examination of the throat.

The invasion is sometimes heralded by acute symptoms, such as a chill followed by high febrile movement, or it's onset may be insidious, the patient complaining of numerous ailments, such as loss of appetite, head-ache, general malaise &c. After the disease has become established, inspection of the throat will

reveal the presence of false membrane, and the chances for or against recovery are generally in proportion with its extent, unless the system be overpowered by the violence of the attack and death result from diphtheritic toxaemia —

The formation of false membrane is not usually preceded by notable pain or soreness, though the function of deglutition may be interfered with, owing to more or less complete paralysis of the pharyngeal muscles, so that fluids taken into the mouth may regurgitate through the nares.

A form of Diphtheria has been described in which the exudation begins

in the nares and is accompanied by an excoriating discharge which flows over the upper lip and destroys the cuticle.

When the exudation extends into the larynx the symptoms are essentially those which characterize pseudo-membranous laryngitis

The constitutional symptoms vary according to the violence of the attack. In some mild cases they are so slight as scarcely to confine the patient to the house, while in those instances in which the larynx becomes involved they are more alarming in their nature and are sometimes extremely harassing. The pulse is usually not much accelerated, though there

are different degrees for different cases; generally it is weak compressible and irregular when this latter feature is marked it denotes gravity of disease The heat of the body is seldom much increased, and is often even below normal Diarrhoea is sometimes present and when excessive is of grave import — There is usually no desire for food or drink and often repugnance for them with complete anorexia — Vomiting is sometimes present and is in most cases an unwelcomed symptom — Hemorrhage from mucous surfaces are not infrequently observed, and epistaxis is com-

times excessive — The mind is generally clear throughout the career of the disease, though in some severe cases low delirium may be present — Convulsions and coma are rare complications and when present are generally due to uraemic poisoning.

Complications and Sequelæ

The secondary affections which are liable to complicate, or result from, an attack of Diphtheria are Albuminuria Heart-clot and Paralysis—

Albuminuria is a frequent complication and is present alike in mild and severe cases, but is seldom productive of serious consequences; usually appearing in the early part of the attack and disappearing shortly after its termination

Effusions within serous cavities and general dropsy are sequels of rare occurrence, though occasionally observed—

The exact morbid process concerned in the production of Albuminuria is not, as yet, fully understood, but it may be stated, in general terms, that its presence is due to the systemic nature of the primary disease, the kidneys, like other organs, becoming impressed by the diphtheritic toxaemia

The occurrence of heart-clot is to be feared in all cases of Diphtheria and especially in young subjects It is a complication of the most serious character, nearly all cases in which it is developed proving fatal—

Pain in the epigastrium, disordered heart sounds and intermittent

the function of respiration, denoted by alternate lividity and pallor of surface, coldness of the extremities, anxious expression of countenance, shortness of breath and etc — are among the most prominent symptoms by which it is indicated —

The occurrence of heart-clot has been ascribed to a deficiency of ammonia in the blood, which is regarded as the agent which holds the fibrine in solution —

Paralysis is the most frequent sequel of Diphtheria, and its occurrence in some form is always to be expected either during or after convalescence has become established

The fauces and soft palate are the
parts most usually implicated, but
other parts are also liable to become affect-
ed. The eye is sometimes involved,
giving rise to disordered vision,
undue dilatation of the pupil &c.
The arms, legs, bladder, or almost
any organ of the body may become
the seat of a paralysis, either of mo-
tion or sensation, which, though, ap-
parently of serious import and cal-
culated to alarm the inexperienced,
in the vast majority of cases ends
in complete recovery after a month or so.
Some rare cases are recorded in
which the paralysis was permanent
and even produced a fatal issue.

owing to one or more of the vital organs becoming involved in its extension over the entire organism, or else they may be primarily attacked and life ended by the suspension of the function of any one of them—

Various theories have been speculated upon as to the immediate cause of this paralysis, but the only conclusion arrived at is that it results from the nervous system becoming overpowered by the diphtheritic poison, which is supposed to have an especial affinity for it. Sometimes Locomotor Ataxia succeeds Diphtheria instead of actual paralysis, with the same tendency to

result in complete recovery —

Diagnosis —

The diagnosis usually can not be made with any certainty until the local lesions characteristic of this disease manifest themselves, after which it becomes sufficiently easy and may be made, in the majority of cases, without further delay. Diphtheria is to be distinguished from scarlatina and pharyngitis with follicular secretion

Prognosis —

Different epidemics of this affection present such marked points of contrast in their fatality and, indeed, the course of the disease itself

is subject to so many modifying circumstances, that no definite laws can be established to aid in forming a prognosis —

Usually, it may be inferred, that those cases in which the exudation is slight and confined to the fauces will end in recovery, but even in these, everything is hypothetical, for at any period in the course of the disease there is a liability to the formation of false membrane within the air passages and thus the mildest may become converted into the most malignant variety —

The age and constitution of the patient must also be taken into

account as materially modifying the prognosis – those who are strong and healthy being more able to stand the ravages of an acute asthenic blood disease like Diphtheria than those who are feeble and with constitution already reduced below the average standard of health

The prognosis in the secondary form of Diphtheria is more unfavourable than in the primary

Treatment

It is most convenient to consider this portion of the subject under the two heads of local and general treatment, the former of which is advocated by those who

regard Diphtheria as essentially a local disease, as being the proper method of applying medication: whilst the latter (i.e. of constitutional treatment) is adopted by those who maintain a contrary opinion — Suffice it to say, that both are useful and neither should be excluded in practice

The remedies which may be administered locally are included in the list of astringents and caustics

They may be employed in the form of powder, solution or, ~~or~~ as is sometimes done with nitrate of silver, in that of a solid stick —

The most important of the local

remedies are nitrat of silver, carbolic acid, tannic acid, alum, dilute muriatic acid, lime water, soda, lactic acid, and ice-elevation. The result to be accomplished are two; either to prevent extension of false membrane, or else, to bring about it dissolution and subsequent expulsion.

Nitrat of silver, carbolic acid and the astringent preparations of iron are considered the best applications for preventing extension (so called) of false membrane, while lime water and lactic acid dilute are regarded as equally efficacious in producing dissolution

don applying nitrate of silver or any of the caustics care must be taken to avoid injuring the healthy mucous membrane surrounding the diphtheritic patch — Small pieces of ice taken into the mouth & allowed to dissolve, are highly recommended when there is considerable congestion and swelling of the throat and neighboring parts

When the symptoms of true croup or croup manifest, due to formation of membrane within the air passages, they must be met with proper treatment, including tracheotomy as a last resort

There is no specific for this disease

General Treatment —

As Diphtheria is preeminently a blood disease of an asthenic type, the proper course of treatment is that of a supporting character, and the aim of the physician should be to ~~support~~ Maintain the resources of the system and thus tide the patient over the attack.

The lancet and mercury of 20 or 30 years past have now been fully superceded by good nutritious food taken in small quantities and at short intervals, tonics, such as quinine iron or any of the simple bitters, rest, plenty of fresh air, and good attendance.

Chlorate of potassium, taken either singly or in conjunction with cinchona bark, has been highly recommended as exercising an alterative influence in this disease.

The indications for emetics, when exudation within the larynx occurs, are the same as in pseudo-membranous laryngitis — alum and ipecac are most preferable.

The milder cathartics, such as castor oil and the saline are indicated when constipation exists. All active medication is to be avoided in this disease.

Complications and sequelæ should receive appropriate treatment as they arise.

W. G. G. Willson Jr.

Thesis On

Simple Intermittent Fever

By

John Steele

Aug. 1876.

Simple Intermittent Fever

Intermittent fever is that [illegible] by the occurrence of febrile paroxysms in regular succession, and the absence of fever between the paroxysms. The name implies the type of the disease, but it sometimes called by other names; such as, "fever and ague," "the shakes," "Louisiana" or "Panama fever". The intermittent fever that is usually met with in practice, is not very dangerous to life: but there is a form

called, pernicious intermittent fever, which, as the name implies, is very dangerous.

Anatomical Characters—

The bronzing of the liver is sometimes seen. The spleen is enlarged, congested, and softened in very prolonged and severe cases.

Clinical History—In a majority of cases the attack is sudden: but in a certain number the patient is forewarned by, headache, want of apetite, general malaise and pain in back and limbs. Such

symptoms are sufficient at
times, to denote an impend-
ing attack.

A paroxysm, when complete,
consists of three distinct
stages, viz., the cold, the hot
and the sweating stages.
Cold stage — This stage com-
mences with chilliness, and
pains in the back and
limbs. The chills are very
marked in some persons,
sufficient to chatter the teeth
and shake the whole frame
in some, while in others,
it is very slight. Notwith-

pain in the head and limbs also palpitation of the heart. The duration of this stage varies from a few minutes to several hours. The average duration being from a half to three quarters of an hour. The transition into the next stage is sometimes abrupt, but generally it is gradual: flushes of heat are felt, the rigor ceases, the chill seems to melt away, fever begins, and the cold stage ends.

The cold stage is sometimes

wanting, the paroxysm begins with the hot stage. A stage of intense uneasiness, such as, gastralgia, gastric irritibility and drowsiness, and in children, convulsions, take the place of the cold stage.

The internal organs are said to be congested in this stage, because there is less blood allowed to flow through the surface vessels. The congestion is probably due to the contraction or spasm of the peripheral

vessels.

Hot Stage — This stage is characterized by fever, more or less marked. The skin, hot and dry, the pulse, quick, full and bounding, the face flushed, the pain in the limbs disappears. The thermometer denotes a rapid increase in the heat of the body, usually to 103° or 105° F. — The duration of this stage varies from three to eight hours. The surface vessels become dilated, and all internal

the solid ingredients of the urine are increased, and albumen is sometimes found.

The intermission or apyrexia, is the space of time between two successive paroxysms. From the beginning of one to the beginning of the next paroxysm is the interval. The duration of the interval varies very much. Each variety observes a law of periodicity. There are three simple types, viz, the

quotidian, tertian and quar-
tan types. In the quotid-
ian type, the interval is
about twenty four hours,
in the tertian about for-
ty eight hours and in the
quartan about seventy
two hours. The paroxysms
are generally uniform in
most particulars; but
sometimes they differ. The
quotidian and tertian
occur most frequently. The
quartan type is seldom
met with. There are quintan,
sextan, septan and octan

types; but they are seldom seen. The type sometimes changes, the quotidian into the tertian and vice versa. Paroxysms are sometimes double; as, double quotidian, with two paroxysms on one day; double tertian, with a paroxysm every day, but those of every other day corresponding in time or character. When the paroxysms occur on two successive days and miss the third, it is called the double quartan. The two last are very rare.

Paroxysms usually occur
in the day time, between
midnight & 6 A.M. Children are
more usually affected with
the quotidian type. As
a rule, the paroxysms are
ever at or near the same
hour each day. This is
not always the case, for
some occur earlier and
some later. When they take
the latter form, the patient
is about to end. During
the intermission, there is
usually, entire immunity
from ailment, both

which is not always the
case.

Enlargement of the spleen
is occasionally a complication. It can be felt through the abdominal walls. In malarial districts, it is known as "ague cake". It is very seldom found, even in cases of long standing, but its pathological connection with the disease is not known. The malarial cachexia is characterized by anaemia, pallor of the face, yellowness

sallow tint, with more or less oedema. General dropsy is occasionally a sequel. Anasarca, with effusion into the serous cavities, is sometimes incident to the disease, and does not denote either heart or kidney disease. An herpetic eruption is common about the mouth.

The duration of the disease is indefinite. Sometimes it ends spontaneously after a few paroxysms, but a greater num-

ber of the cases continue for weeks or months, if not arrested by curative means. The indefinite duration of this disease is the marked point as contrasted with the continued fevers; the latter are self-limited, being restricted within a certain period. Intermittent fever is very much proned to relapses. One attack predisposes to another. This liability remains for many years. It was formerly believed

that the tendency to re-
lapse must be removed if
the disease was left to
end at its own accord.
Clinical experience has
shown the tendency to
be the case, if not inter-
rupted by therapeutical
means. The sooner the
paroxysms are interrupt-
ed by therapeutical
means, the less the li-
ability to returns.

There is a disease, known
in malarious districts
as, Latent or Intermittent fe-

ver or dumb ague. The par-
oxysms are not fully devel-
aped, but the patient
complains of indefinite
ailments, termed bilious.
The apetite is generally im-
paired. There may be pain
in the head, tendency to
vomit, general indispo-
sition &c. The tongue is
generally covered with a
thin white coating. On
close examination, there
may be found a tenden-
cy to periodicity, either an
successive or alternate

slight. The thermometer is indispensible in such cases. The heat of the skin and the pulse not being sufficiently increased to indicate febrile action. When this is the case, remedies which are appropriate in more marked cases of intermittent fever, should be employed.

Intermittent fevers may exist in combination with other affections, as bronchitis, pneumonitis,

dysentery &c. The association may render the periodical disease irregular, and interfere with the functional movements of the pharynx &c. It is not proper to term these affections malaria. They are strictly accompanied by pneumonia proceeding from malarious disease existing in combination. In malarial districts the malarial influence is apt to pervade all affections, and

require special treatment.
Practitioners in such localities soon become aware that such is the case. Neuralgia sometimes seems to take the place of intermittent fever, appearing with equal regularity, and amenable to the same treatment.
Causation — The causation involves a special morbific agent, commonly known as malaria.
The following are the

points relating to our existing knowledge of malaria

1st. It most usually affects [illegible] places.

2nd. It is seldom seen where the temperature is below 60°F

3rd. Its progress is almost always checked by a frost

4th. Its malignancy is increased as we approach the equator and sea-side.

5th. It is sometimes transported to considerable distances by currents of air.

6th It is frequently developed by turning up soil, as in making foundations for houses, tracks for rail roads, and beds for canals &c.

7th Experience alone can enable the physician to decide the absence or presence of malaria in a given locality

8th Clearing up and thickly settling localities where malaria has been rife, will sometimes cause its complete disappearance.

From the foregoing statements, the source of malaria is in the soil. It almost always occurs, or is generated during the summer months. It seems that its specific gravity keeps it near the ground. Persons sleeping near the ground are more liable to be attacked with it than those who sleep high up, & it is more abundant in the night air than during the day, and

hence the disease may be often avoided by avoiding its influence evening and morning, It is not contagious.

Prof. J. H. Salisbury's theory as to the origin of malaria is as follows. Intermittent fever is caused by the introduction into the system of cells or spores emanating from certain species of plants called Palmellae, which belong to the lowest known

vegetable organism. To these species of plants he applies the generic name Gemiasma, signifying earth miasm, and he also calls them ague-plants.

The above theory is not generally believed to be true, although there are some who believe it.

Diagnosis. It is not very difficult when the intervals and paroxysms are well marked. In dumb or latent inter-

without fever, it is not so easy, sometimes a positive diagnosis can only be obtained by appropriate treatment. Yet it is frequently very difficult to distinguish the paroxysms occurring in intermittent fever from those occurring in patients affected with pulmonary tuberculosis; they may present the three stages of intermittent fever and the regular intervals also.

The paroxysms of intermittent fever usually occur during the morning, while those of tuberculosis occur in the evening. The known exposure to malaria and the existance of tuberculosis will assist in making a differential diagnosis. The appropriate treatment for intermittent fever sometimes arrest the apparoxysms of tuberculosis. Chills connected with suppuration, in

malarious districts, are sometimes thought to be caused by malaria. The treatment will assist in the diagnosis. Operations upon the urinary passages, frequently produce symptoms resembling those of intermittent fever.

Prognosis. As regards immediate danger, it is not a very grave disease. It may prove serious, if allowed to continue for a long time

or recur frequently, by causing anaemia, dropsy or the malarious cachexia. It was supposed for a long time that intermittent fever was a protective against phthisis; but the reverse is found to be the case, if there be a predisposition to the disease.

Treatment. There is a remedy which could be considered, almost if not quite, a specific in this disease. The

salts of quinia as the remedy to which I refer, of which the sulphate is almost universally used. It will almost invariably arrest the paroxysms. The speedy arrest of the disease will arrest the morbific effects and diminish the liability to relapses. It was formerly thought that there should be a preparatory treatment, such as cathartics and emetics; but this plan

of treatment is not considered justifiable, an account of the time sometime lost. The best mode of treatment is, to begin treatment immediately after you see the patient, an account of its liability to become pernicious. As regards the time of giving the anti-periodic remedy, the experience of most of the best physicians prove that when given as near as possible to

the paroxysm which
has passed. When given
during the sweating stage,
the chances for prevent-
ing the next paroxysm
are greatest. Two or three
grains given every three
or four hours, will
stop the paroxysms in
a majority of cases. When
that is not sufficient,
give from five to ten
grains two or three
times a day. Ringing in
the ears and buzzing
about the head, is symp-

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]

more rapid. It may be given, with very good results, just before the paroxysm is expected, while it would not be at all advisable to administer it in any other way.

After the paroxysms have been interrupted, the sulphate of quinia should be continued in doses of from one to five grains daily, for several weeks. If anaemia exist, the citrate of Iron & Quinia should be

used, also good and nutritious food, and stimulants. If constipated, a mild laxative or an enema may be given.

The sulphate of cinchonia in one third larger doses, is said to be a very efficient anti-periodic. It is less liable to affect the stomach than sulphate of quinia.

Next in value as an anti-periodic is arsenic. Fowler's solution is the

preparation most fre-
quently used — given in
doses of ten or twelve
drops. This should not
be used unless quinia
or some other prepara-
tion of the bark has
previously been employ-
ed.
Prof. McSherry has em-
ployed salycilic acid
with very good results,
in three grain doses,
three times a day. Oth-
ers have used it with
very happy results.

A full dose of Opium, given during the cold stage sometimes acts as an abortive measure. Sinapisms applied along the spine have a similar effect. Warmth and stimulants should be used during this stage. A drachm of chloroform given, has been followed by the happiest results.

During the hot stage, sponge the surface with cold or tepid water

Ice or ice water may be
taken freely.

During the sweating stage,
wipe the body with warm
flannels, change the
clothes also the bed-
clothing; but do not
expose the patient to
cold

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A Treatise on "Epilepsy"

by

Wm. F. Kingst

Baltimore, Md.

February — 1876

Epilepsy.

Definition. A disease characterized by convulsive attack of short duration attended [illegible] of face distortion [illegible] mobility of [illegible] at the mouth [illegible] with blood. But this is only one of the forms of epilepsy & [illegible] which are perhaps more frequently met with & which however different may appear at first sight, present the greatest analogies between one another. The convulsive form itself is often mistaken [illegible] with other convulsive affections such as [illegible] of Eclampsia; these latter [illegible]

Epileptic seizure very often with
beginning Epilepsy, occur during
the night so that the individual
may be found [illegible]
in the morning [illegible]
in the morning he may feel a pain
and headache in the head [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible]

[illegible] the
much difficulty the disease is
in general readily ascertained,
[illegible]
The [illegible] the sudden
[illegible], the [illegible] the beginning of
the paroxysm, the loss of consciousness,
the tonic & clonic convulsions, em-
[illegible] respiration, ejection
from the [illegible]
often mixed with blood & the
short duration of the fit. Ancs
[illegible] of the [illegible]
paroxysm [illegible]
[illegible] cicatrices, resulting
from the wounds of this organ,
which are quite diagnostic

regard. The prognosis as regards
[illegible] is
[illegible] unfavorable, [illegible] exceedingly
[illegible] for a [illegible] very fatal.
[illegible] which does prove fatal, death is
[illegible] usually due to [illegible] arising from
[illegible] and [illegible] of the muscles
[illegible] of respiration & the laryngeal muscles
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
short lived, and in the majority of
cases death arises from other dis-
eases, the development of the
epileptic paroxysms [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]

majority of cases, the disease tends to become confirmed, and as a rule, the intrinsic tendency is to increasing frequency of the paroxysms. Also as regards the mental condition, to a certain extent, the disease tends intrinsically to impairment or disorder of the faculties of the mind. Epileptic especially, if the paroxysms occur at short intervals, sooner or later [illegible] into [illegible]. To a greater [illegible] extent this is due to causes other than the intrinsic tendency of the disease. [illegible] not developed by education and those occupations which involve

sus are to be [illegible]
a pathological condition [illegible]
[illegible] epilepsy
Treatment: The treatment of epilepsy
relates to the management of the [illegible]
and to measures for effecting a cure.
The latter are to be employed in the
intervals. The treatment dividing it
self into a rational & empirical
The rational treatment consists in
[illegible] possible indication
from an investigation of each case
[illegible] and to the state of the system
[illegible]
which may be suspected of standing
in a causative relation to the malady
[illegible]

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
indicated [illegible] [illegible] [illegible] [illegible]
patients be anaemic [illegible] [illegible]
an opposite character are indicated
[illegible] of the digestive system
Uterine affections, and in short
morbid disturbances anywhere
in the economy should receive
appropriate treatment, they may
be, in some way concerned in
the [illegible] [illegible] perpetuation
of the malady. The presence or other
wise of tacnia is to be ascertained
[illegible] with respect to syphilis
[illegible] [illegible] [illegible] [illegible]
or bodies induce exposure sedentary

habits mental & moral influences
abuse of Alcohol, Tobacco [illegible]
indulgence [illegible] practice of
masturbation, are to be inquired into.
The Empirical treatment consists
in the Employment of remedies or
therapeutic [illegible] which
experience [illegible] & [illegible]
times curative. These are [illegible]
[illegible]. Of the various remedies
which have been considered as cur-
ative those within late years & at the
present time in most [illegible] are the
following. [illegible] preparations
of [illegible], preparations of Zinc digitalis
[illegible] Narcotic Extracts more especially
[illegible], & the [illegible] of [illegible]

by force [illegible]
All articles of dress which con-
strings the neck or chest should
be removed or loosened. To prevent
[illegible] of the tongue a roll of
linen or a piece of soft wood
may be introduced between the
teeth. Free ventilation provided
[illegible] should be kept
[illegible] the paroxysm [illegible]
[illegible] cooling [illegible]
[illegible]. When a series of paroxysms
[illegible], measures may be employed
to prevent their recurrence other valerian
[illegible] Ephedra may be given for
the object [illegible] of Chloroform
[illegible] of the carotids for ten

[illegible] succeeds [illegible]
[illegible], and which may be
incident to [illegible] attack,
[illegible] [illegible] [illegible]
[illegible] committed. The occasional
occurrence of [illegible] lasting
[illegible] hours or days, in connection
with the disease, is to be borne
in mind in giving medical
[illegible]. [illegible]
[illegible] disease is [illegible]
[illegible]

[illegible]

THESIS.

The Stomach.

Its Anatomy & Physiology.

by

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Feby. 14. 1876.

Note - This essay was written before Prof. Donaldson lectured on Digestion and it contains the views of such authorities as I have access to. For the want of time to review it I present it as originally written.

The Stomach

Its Anatomy and Physiology.

The stomach is a flask-shaped dilatation of the alimentary canal, situated transversely in the abdominal cavity, in the left hypochondriac, the epigastric, and part of the right hypochondriac regions. It is continuous above with the Esophagus (a muscular-membranous canal which extends from the Pharynx to the stomach) by means of the cardiac orifice, placed on its upper side; and it communicates below with the Duodenum (the upper part of the small intestine) through a constricted opening called the Pylorus. The upper part of the stomach between these two

openings is called the lesser curvature; and that below, the greater curvature. This latter expands into a cul-de-sac called the fundus and this extends two or three inches to the left of the Esophagus.

The Stomach is in relation in front, with the anterior wall of the abdomen; above, with the diaphragm and liver; below, with the transverse colon; to the left, its fundus is under the ribs, connected with the spleen by the gastro-splenic omentum; posteriorly, with the aorta of the diaphragm, the solar plexus, the great vessels and the pancreas. The gastro-hepatic ligament, a fold of the peritoneum, fixes the esophageal end; its pyloric portion is held in position

by the lesser mentium and is somewhat movable

Its shape, position, and relations vary as to emptiness or distension, the respiratory acts; and in certain diseases Its transverse diameter is twelve inches; vertical four inches: its weight is about four and one half ounces, and its capacity is variable.

The stomach has four coats; a serous, derived from the peritoneum; a muscular next beneath the serous covering, with three sets of fibres, longitudinal, circular and oblique; a cellular or submucous, sometimes called the vascular, as it contains the bloodvessels before their final distribution; and a mucous membrane.

The mucous membrane is continuous with that lining the rest of the alimentary canal, and it derives its name from the character of the secretion which moistens and protects it. It is remarkable for its vascularity and its glandular or follicular apparatus. Divided perpendicularly the mucous membrane is almost entirely composed of a multitude of parallel tubuli closely applied to each other, their orifices opening on the free surface of the mucous membrane. They are either isolated or clustered, with only room for capillary bloodvessels and connective tissue between them. The entire surface of the mucous membrane is covered by cylindrical epithelium which lines the follicles, and whose cells are in

a continual state of change and renewal.

The gastric follicles vary in different parts of the stomach. In the cardiac portion they are longer and more complicated, appearing reticulated or honeycombed (from being covered with small pits or alveoli) with polygonal interspaces or ridges which are exceedingly vascular. In these alveoli open the orifices — three to five or more — of the gastric follicles. Near the pyloric portion, the ridges which separate the alveoli are more elevated or even conical, the arrangement being the same except as to shape and number, varying as to situation; many of the tubuli being single and straight. The blood vessels come up from the submucous tissue

and freely supply the follicles both for secretion and absorption. These glands supply mucus and the gastric juice, one of whose elements is pepsin.

When the stomach is empty, its mucous membrane is thrown by its contractions into numerous plaits or rugae, more marked near the pylorus. These folds disappear on distension of the organ.

When food is introduced the mucous membrane becomes reddened and turgid, a clear acid fluid collects in drops and soon mixes intimately with the food.

The arteries of the stomach are the gastric, and branches of the hepatic and splenic.

The veins accompany the arteries and empty into the splenic and portal veins.

The lymphatics are numerous.

The nerves are the terminal branches of the right and left pneumogastric and branches of the sympathetic.

The vessels and nerves run between the folds of the peritoneum, at the greater and lesser curvatures.

There is incessant change taking place in all the tissues of the body during life, the waste being got rid of by various processes of elimination and excretion. To replace this loss and provide for growth, we take food.

and as most of it is not found in such a condition as to be ready for absorption, it is subjected to the various actions of the digestive organs.

The food of various nations and tribes is regulated by the nature of the country which they inhabit, though among civilized peoples it is modified, and luxuries are supplied, by commercial relations with other nations. Various prohibitory dietetic rules have arisen from scarcity of certain animals, or from political or moral purposes. Some rude tribes, at the present day, subsist on the simplest uncooked food. Others, again, habitually employ putrescent meats; but, it has been shown that they are particularly liable to epidemic

disorders of the digestive system.

A mixed animal and vegetable diet, it is established by many experiments on human beings and the lower animals, is that best fitted for the highest mental and physical development. No one class of food is capable of sustaining life, and, to a certain extent bulk is as necessary as the presence of nutritious principles.

Food undergoes certain changes in cooking. It becomes savory, and this flavor renders digestion more easy by stimulating the digestive secretions. Vegetable substances are rendered soft and digestible; but muscular fibres are hardened, though the connecting fibrous

tissue is gelatinized and softened, and rendered more readily attacked by the digestive fluids.

Condiments are used to give sapidness to food, and they are also useful as they stimulate the various digestive functions.

The absolute quantity of food necessary for the maintenance of the health of the individual, its kind and preparation, varies with the individual and the condition of the digestive apparatus. The appetite is the best indication, but since the feeling of hunger depends on the condition of the general system, and not on the fulness or emptiness of the stomach, we should eat slowly as the ingestion of food

cannot at once dissipate the feeling, that the demand of the system may abate in time to prevent the ingestion of an injurious amount of food. Dr. Beaumont says the cessation of this demand and not the sense of satiety is the proper guide. In diet scales of armies, prisons, workhouses &c, allowance is made for the amount of exercise and climate, and a due mixture of the different kinds of food and the vegetable acids are supplied.

In many diseases, both acute and chronic, there is a tendency to death by asthenia. A marked change has occurred in quite recent years in the alimentation of the sick.

It is quite probable that formerly (perhaps even now) many sick persons were allowed to die of starvation, which, if properly nourished, they would have recovered from the attack of disease. Inanition enters into all diseases which interfere with digestion or assimilation. Hunger is not prominent during starvation; after being felt for a time it is frequently lost, or it may even be succeeded by loathing. It is often so in disease, especially in fevers, and alimentary supplies are important not only for nutrition but to meet the excessive tissue waste. The food must be suited to the impaired digestive functions, as harm may arise from over ingestion, but there

need be no fear of hypernutrition. The tastes and desires of the patient are, in general, a good rule, both as to the selection of the food and its mode of preparation, - but want of appetite is not an indication that food is not necessary.

Want of sufficient food, voluntary (as in "dieting"), or enforced, or malassimilation, is often the cause of disease, favoring the development of tuberculosis and scorbutus, or typhus where there is an actual scarcity of food, as has occurred in Ireland. Want of good food and bad cooking are often obstacles to the successful treatment of disease among the poorer classes.

In some cases of disease milk will be borne and digested, and sometimes the judicious use of alcoholic stimulants will tide a patient over a crisis - the alcohol seeming in these cases to act as a true food. The effect on the particular case seems to be the only guide as to the kind and amount of the stimulant to be used.

The alimentary principles of food may be divided into the Inorganic and the Organic; and the latter may be subdivided into the nitrogenized and the non-nitrogenized.

The Organic principles were formerly alone considered as aliments, the

inorganic being overlooked by reason of their intimate blending with organic compounds; they are necessary, and most of them are present in the requisite proportions in the ordinary articles of diet. They include water, certain salts as phosphate of lime, chloride of sodium, alkaline carbonates, phosphates and sulphates, iron, sulphur, phosphorus and hydrochloric acid.

The organic class is exceedingly numerous and comprises all animal and vegetable food.

Hunger is an internal sensation, the seat of which is referred to the stomach,

but it is a demand of the system at large. Its slightest condition is appetite. Habit and exercise regulate its recurrence; emotions check it, and it is appeased by innutritious articles, but it soon returns with increased force. It varies in the adult, in childhood and in the aged; becoming urgent with diminished powers of assimilation. It may become a disease, when it is excessive (bulimia), or result in a depraved appetite (pica) in which inedible articles are eaten. Starvation and cold are said to produce similar effects; respiration and circulation slacken, heat and the secretions diminish; and, as in shipwreck,

antipathy and affection are overcome. The young and robust expire earliest. The stomach is empty, containing some mucus, but no gastric juice. The proximate cause of hunger may be the condition of the capillary vessels of the stomach, regulated by the sympathetic which communicates the wants of the system; or, as some think, it is caused by the attrition of the walls of the empty stomach on each other.

Thirst is a sensation referred to the fauces and is a systemic expression of the want of water. The introduction of water into the stomach alleviates it by

immediate absorbtion, — a warm water bath accomplishes the same end to a limited extent. The necessity of water to maintain health, and even life, is shown by the fact that animals live much longer without food, when allowed water, than when deprived of it.

Vomiting is essentially a reversed peristalsis, and it takes place by the direct contact of irritant substances with the mucous membrane of the stomach itself; by the introduction of specific emetics into the circulation; by irritation of other parts of the body (reflex); and by sensational or emotional impressions. This act is pre-

ceded by a deep inspiration and a spasmodic closure of the glottis. The diaphragm is fixed and the stomach is pressed firmly against it by the muscles of expiration.

Prehension, mastication and insalivation of the food are processes preliminary to ingestion. The object of mastication is to triturate and disintegrate the alimentary substances that they may be the more readily acted on by the various digestive fluids. It is of great importance that this should be well done; if imperfect, the subsequent processes are liable to derangement, and it is one of the most frequent sources of dyspepsia. The disintegration of the food is materially aided

by insalivation, and it facilitates the swallowing of the bolus. The saliva has also the effect of converting starch into glucose, but it does not remain long enough in contact with the food to make this conversion an important part of the process of digestion.

The bolus is carried through the pharynx and esophagus by swallowing or deglutition. This seems to be done both by the direct stimulus of the bolus producing muscular contraction, and by reflex action of the pneumogastric and other nerves distributed to these organs.

The food is carried into the stomach by successive waves, it is there retained for several

hours, and is subjected to its peristaltic action, and to constant agitation by the respiratory acts. The stomach contracts, its rugae close upon the food, and if fluid it is gradually diffused throughout the cavity, no more being taken during the contraction, and as this action cannot be hurried, eating too fast interferes with its strength and regularity, the esophagus and stomach contract irregularly, and the regular progress of digestion is interfered with. Now the food undergoes the first part of the true digestive act, being converted into a pultaceous mass called Chyme, and the process is called Chymification. As this progresses

the chyme passes into the duodenum, leaving the rest of the ingesta to be acted on by the gastric juice. The pylorus is said to resist the passage of solid food, but its functions are probably exaggerated as substances, if small enough, nutritious or not, as well as undigested food, pass easily, though they may cause uneasiness to the individual.

The average time necessary to digest a meal of meat is three to five hours, according to Dr. Beaumont, who experimented with various substances on the famous Alexis St. Martin, who had a gastric fistula from imperfect healing of a wound. Various other cases have since happened; also

artificial fistulae have been made on the lower animals and the results studied. No definite time can be fixed. It varies as to the digestive capacity of the individual, the state of his health and the digestibility of the food taken. Gentle exercise favors it, but it is interfered with by fatigue, bathing, violent exercise, mental emotions and intellectual efforts.

When the stomach is empty its mucous membrane is soft and velvety, and its is covered by a thin transparent viscid mucus lining its whole interior, the secretion being neutral and even alkaline. When food is taken the papillae (orifices of the follicles) distil a pure

limpid and slightly viscid fluid which is invariably **acid** – this is the gastric juice secreted by the follicular apparatus already described. It never accumulates in the organ during fasting and it is discharged only under the stimulus of aliment or mechanical irritation. If irritated beyond certain limits, this secretion ceases and a ropy mucus is poured out instead. Then comes nausea, actual vomiting and a flow of bile into the stomach. A small quantity of ice, or of cold water stimulates the flow of the gastric juice, but much cold retards it. The requirements of the system and not the amount of food

ingested, regulate the ~~secretion~~ amount of the gastric juice secreted,- an important dietary fact. The excess of food passes into the bowels in a crude state, becoming a source of pain, irritation or disease.

The Gastric juice, when freed by filtration from mucus and epithelium, is perfectly transparent and nearly colorless, having only a slight yellow tint. It has a distinct acid and saline taste; and it is slightly heavier than water. Its constituents are water, inorganic salts (chiefly chloride of sodium) organic substances and a free acid - about 1.75 percent being solids and 98.25 parts water.

The organic constituents of the gastric juice occur in but exceedingly small quantities. The most important is a substance called Pepsin. It is soluble in water only, being precipitated from a fresh solution in white flocks by strong alcohol; forming a gray compact mass when filtered and dried. This is the true digestive principle or organic "ferment" of the gastric juice. It exhibits strong digestive powers when mixed with hydrochloric or lactic acid in dilute solution, but it is more active with the former. An alkaline solution soon becomes turbid, and boiling renders it inert. It appears that the acid is the true solvent, the pepsin acting

as a catalytic (a term which conceals our ignorance). It replaces a high temperature, which is not possible in the stomach, and it exerts its solvent action on albuminous substances outside of the body as well as in the stomach. Pepsin appears not to be used up or consumed during digestion. ~~that~~ which is poured out into the alimentary canal, passes out in part by the urine after it has done its work, and may be recovered ~~from~~ that fluid. This organic matter acts in a manner similar to other "ferments" or catalytic bodies, but its exact mode of action is unknown. Its peculiarity is that it requires to be dissolved in an acidulated fluid.

Chemists differ as to the nature of the free acid, but all, I believe, agree that it is either hydrochloric or lactic acid; both having been found in the gastric juice. The presence of other acids, as butyric &c, is admitted to be abnormal and due to putrefactive changes in the food. In gastric Catarrh the mucus accumulates in large quantities and ferments in the presence of amylaceous or saccharine food, as acetous, butyraceous and lactous fermentations; the two latter are especially promoted by the presence of fat, giving rise to heart burn, a sensation of constriction in the throat, vomiting and antiperistaltic action which causes a regurgitation of bile into

the stomach. In Uraemia the gastric glands secrete urea.

Bernard denies the presence of hydrochloric acid, and asserts lactic acid to be the true solvent, his principal reason being that starch acts similarly with iodine whether boiled with lactic acid or gastric juice, and that the distillate of gastric juice is neutral and it is not until the liquid has been distilled down to a few drops that it gives any reaction with nitrate of silver. But Bidder and Schmidt have clearly shown that the quantity of Chlorine precipitated by nitrate of silver is equivalent to a quantity of hydrochloric acid more than enough to neutralize all the bases contained in

the juice;" a portion of the acid must be present in the free state, and the excess, determined as above, was found nearly equal to the quantity of free acid in the Gastric juice, estimated by neutralization with standard solutions," - and hydrochloric acid can unite with albuminous substances forming compounds from which it is not expelled by distillation. The question is complicated by the fact that lactic acid decomposes alkaline Chlorides at a high temperature, the strength of the solution partly determining the degree. Graham found free lactic acid present in small quantities and he obviated the above objections by separating the hydrochloric acid by liquid diffusion.

The truth seems to be that both are present and give the gastric juice its peculiar solvent power over albuminous substances, but that hydrochloric is the chief acid, and one may replace the other.

The free hydrochloric acid is derived from the decomposition of the Chloride of Sodium, as during the secretion of the gastric juice the acidity of the urine is greatly diminished and least when digestion is at its height. The soda at this time is probably taken up by an acid which during fasting, would have been excreted by the urine, but which remains in the circulation while digestion is going on.

There is also a great difference of opinion as

to the amount of gastric juice secreted during the twenty four hours, the estimates varying from sixty ounces to thirty one pints; Dalton gives thirteen pints, the estimate being made from experiments on the gastric juice of a dog. It is probable that although the total amount may be very large, there is only a small quantity (a few ounces) present in the stomach at any one time, and consequently the drain on the blood is slight. It is gradually secreted as long as any food remains undissolved, and as digestion is accomplished, it, with the digested food is reabsorbed, thus a digestive circulation back and forth from the stomach

and bloodvessels is constantly going on. The quantity of gastric juice varies greatly. It is excited by ingestion of food or mechanical irritation; sugar, aromatics, alcohol and alkalis immediately excite profuse gastric secretion, animal substances act more slowly but ultimately to a greater amount. The several conditions for the action of the solvent are temperature (96° to 100°), motion, and the removal of the food already reduced.

The immunity of the stomach itself, during life from the action of the gastric juice has been attributed to the vital principle, but Bernard showed that a

frog's legs, divested of their epithelium, and introduced through a gastric fistula, are digested; and Pavy obtained the same results with the ear of a living rabbit, thus clearly disproving this influence. Pavy's explanation is that the acidity of the gastric secretion is neutralized by the alkalinity of the circulating blood. It is probable that the mucus secreted by the stomach is also an element of its protection. After death however, the blood becomes stagnant and incapable of supplying the necessary amount of alkali, consequently in some cases, especially in violent or sudden death during digestion, the gastric juice being healthy and vigorous,

the stomach is found to be dissolved to the extent of perforation.

The gastric juice is not a universal solvent for all aliventary substances, but it exerts its influence solely on the albuminoid substances, and whether solid or semi-solid, they are liquefied by this digestive fluid. The walls of fat vesicles, and the connective tissue of fat are dissolved and the oily matters set free. It attacks the gluten of bread and leaves the starch unchanged. The acid gastric juice first coagulates the casein of milk, and it is afterwards digested. These substances are reduced to a complete solution and brought to

one uniform condition, termed albuminose or peptones, - containing nitrogen as an ultimate element. This substance is freely soluble in water, remains fluid after digestion, and it is absorbed by the vessels. The constituents of the gastric juice which are essential to the process of digestion are the pepsin and the free acid. It is neutralized and completely loses its action on nitrogenized food, by an alkali, and both very high and very low temperature checks its action.

It is questionable whether any artificial pepsin is efficient in dyspepsia. Dr. B. F.

Craig (Surgeon General's Office, Washington) informed me that he had made an analysis of all the various makes of pepsin found in the market, and in only two samples did he find an appreciable amount of pepsin present.